NOTIFIER®
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NFS2-3030
Listing Document

PN LS10006-051NF-E:F2 5/19/2022 ECN: 16475

For additional documentation on this product, go to http://esd.notifier.com. This additional documentation for the NFS2-3030 may be used as a reference only.

NOTE: The term NFS2-3030 is used to refer to the NFS2-3030, NFS2-3030E, and NFS2-3030C.The term FAAST is used to refer to the FAAST XS, FAAST XM, FAAST XT, and the FAAST XT PRO unless otherwise noted.

NOTE: For Mass Notification applications, Class A circuits called out in this manual are Class X.

1 Installation

Wiring methods used shall be in accordance with Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681.

Wiring methods used shall be in accordance with Standard for Central Station Alarm Services, UL 827.

This product is intended to be installed in accordance with the following:

- NFPA 70 - National Electrical Code/Article 300 Wiring Methods
- NFPA 72 - Central Station Fire Alarm Systems (Automatic, Manual, and Waterflow) Protected Premises Unit (requires UDACT/UDACT-2)
- NFPA 72 - Local (Automatic, Manual, Waterflow and Sprinkler Supervisory) Fire Alarm Systems
- NFPA 72 - Auxiliary (Automatic, Manual, and Waterflow) Fire Alarm Systems (requires TM-4)
- NFPA 72 - Remote Station (Automatic, Manual, and Waterflow) Fire Alarm Systems
- NFPA 72 - Proprietary (Automatic, Manual and Waterflow) Fire Alarm Systems (Protected Premises Unit)
- NFPA 72 - Initiating Devices for Fire Alarm Systems
- NFPA 72 - Inspection, Testing and Maintenance for Fire Alarm Systems
- NFPA 72 - Notification Appliances fir Fire Alarm Systems
- NFPA 12- Standard on Carbon Dioxide Extinguishing Systems
- NFPA 12A - Standard on Halon 1301 Fire Extinguishing Systems
- NFPA 13 - Standard for Installation of Sprinkler Systems
- NFPA 15 - Standard for Water Spray Fixed Systems
- NFPA 16 - Standard for Deluge-Foam Water Systems
- NFPA 17 - Standard for Dry Chemical Extinguishing Systems
- NFPA 17A - Standard for Wet Chemical Extinguishing Systems
- NFPA 92 - Standard for Design, Installation and Testing of Smoke-Control Systems
- NFPA 2001 - Standard for Clean Agent Fire Extinguishing Systems
- UL 2572 - Standard for Mass Notification Systems
- UL 38 Manually Actuated Signaling Boxes
- UL 217 Smoke Detector, Single and Multiple Station
- UL 228 Door Closers - Holders for Fire Protective Signaling Systems
- UL 268 Smoke Detectors for Fire Protective Signaling Systems
- UL 268A Smoke Detectors for Duct Applications
- UL 346 Waterflow Indicators for Fire Protective Signaling Systems
- UL 464 Audible Signaling Appliances
- UL 521 Heat Detectors for Fire Protective Signaling Systems
- UL 864 Standard for Control Units for Fire Protective Signaling Systems, 10th Edition
- UL 1481 Power Supplies for Fire Protective Signaling Systems
- UL 1971 Visual Signaling Appliances
- UL 2610 Standard for Commercial Premises Security Alarm Units and Systems
- UL 2017 Standard for General-Purpose Signaling Devices and Systems
- ULC-S527-11 Standard for Control Units for Fire Alarm Systems
- ULC S524 - Standard for the Installation of Fire Alarm Systems
- EIA-485 and EIA-232 Serial Interface Standards

Follow these guidelines when mounting the product's backbox:

- Backbox should be installed in a dry, indoor location.
- Recommended temperature for installation of fire panel hardware is between 15.6-16.7°C/60-80°F.
- System operation requirements are 15-27°C/60-80°F and at a relative humidity of 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F).
- Locate the backbox so the top edge is 66 inches (1.6764 m) above the surface of the finished floor.
- Access to the cabinet shall be in accordance with NFPA 90, article 110.33.
- Allow sufficient clearance around cabinet for door to swing freely.

1.1 Wiring Connections, Switches and LEDs

1.1.1 CPU2-3030(CPU2-3030DC for Canada only) Board Layout and Wiring Connections

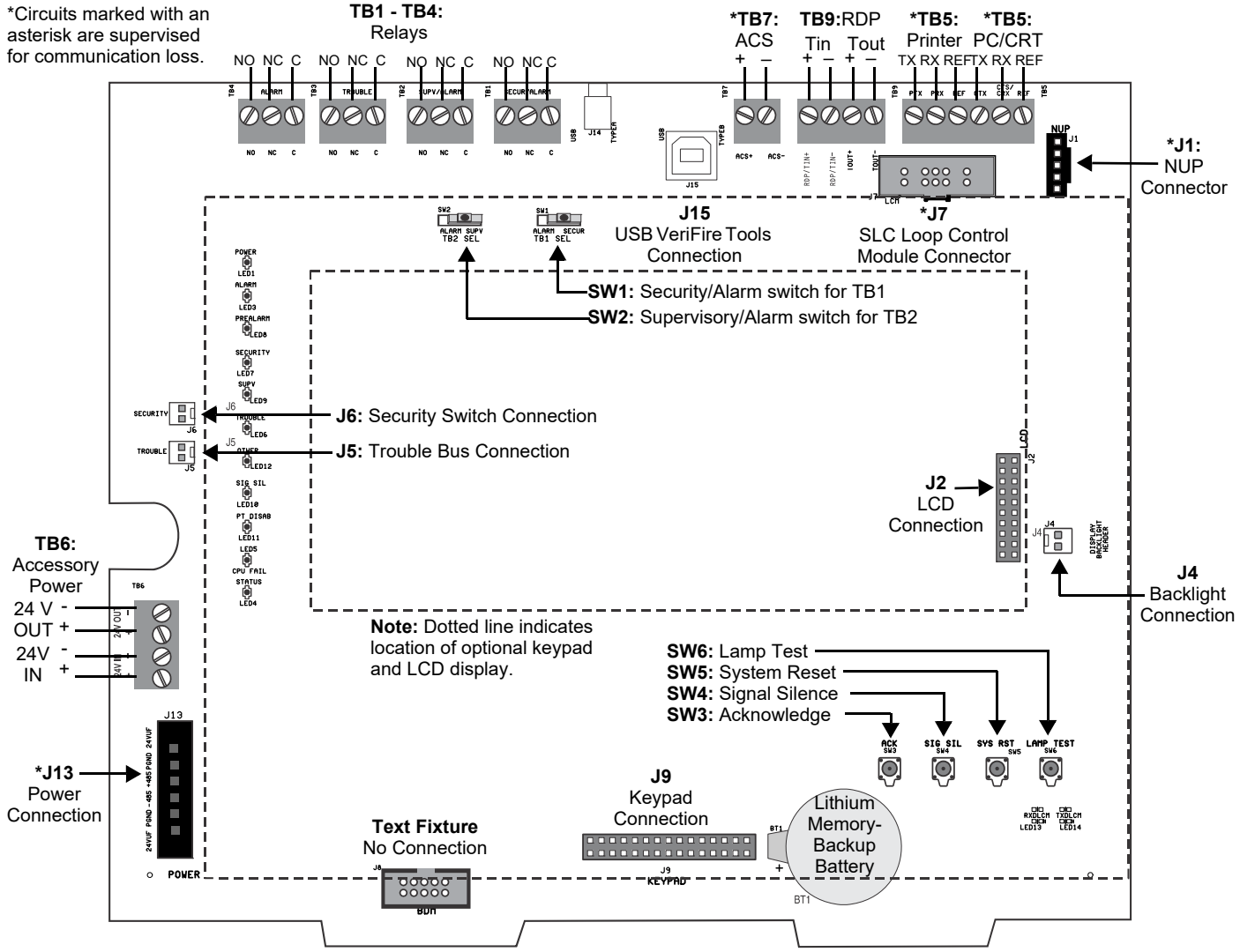


Figure 1 CPU2-3030(CPU2-3030DC for Canada Only) Wiring Connections and Switches

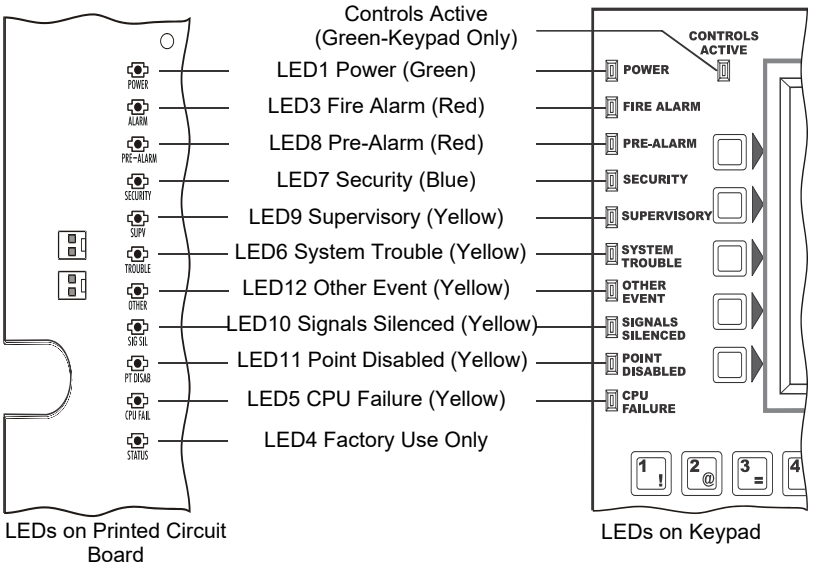


Figure 2 CPU2-3030(CPU2-3030DC for Canada Only) LED Indicators

Terminal Block/ Connector/ LED	Description	Specifications
TB1	Security or Alarm Relay	• Power-limited (Class 2) only if connected to a power-limited source • Voltage and Current: Rated 2.0 A at 30 VDC resistive • Can be changed from Security to Alarm via SW1 • Non-supervised
TB2	Supervisory or Alarm Relay	• Power-limited (Class 2) only if connected to a power-limited source • Voltage and Current: Rated 2.0 A at 30 VDC resistive • Can be changed from Supervisory to Alarm via SW2 • Non-supervised
TB3	Trouble Relay	• Power-limited (Class 2) only if connected to a power-limited source • Voltage and Current: Rated 2.0 A at 30 VDC resistive • Non-supervised
TB4	Alarm Relay	• Power-limited (Class 2) only if connected to a power-limited source • Voltage and Current: Rated 2.0 A at 30 VDC resistive • Non-supervised
TB5*	EIA-232 Printer/PC/CRT (Terminal) Connection	• Power-Limited (Class 2) • Supervised • Isolated printer connection (left side) • Isolated PC/CRT or Keltron printer supervision connection (right side) • Equipment must be located in the same room within 20 feet of the panel with cables encased in conduit
TB6	Accessory Power	• Nominal Voltage: 24 VDC, Regulated • Maximum Current: 5amp max, depending on power supply source • Ground Fault Impedance: 0 ohms • Supported by battery backup during AC power loss • Power-limited (Class 2) • Provide power to accessories located within the same enclosure • If the accessory being powered has outputs, the outputs must be power-limited • Class B wiring supervise with a power supervision relay or EOLR-1
TB7*	EIA-485 ACS Connection	• Characteristic Impedance: 120 ohms • Supervised • Power Limited (Class 2) • Connection for devices such as the UDACT/UDACT-2 and annunciators • Up to 32 annunciator devices can be connected or a total of 3,072 annunciator points
TB9	EIA-485 RDP Connection	• Characteristic Impedance: 120 ohms • Supervised return • Power-limited (Class 2) • Connection for devices such as the LCD-160/C or LCD-80/LCD2-80
J1*	Network/Service Connection (NUP)	• Power Limited (Class 2) • Supervised
J2	LCD Connection	• Connection for the main display (LCD)
J4	Backlight Connection	• Connection for the LCD backlight
J5	Trouble Bus Connection	• Trouble monitoring connection for auxiliary equipment
J6	Security Switch Connection	• Connection for a Security Tamper Switch (STS-1) or local control (AKS)
J7*	SLC Loop Control and Expander Module Connection	• Connection for the addition of LCM-320 loop control modules and LEM-320 loop extension modules • Uses cable P/N 75565
J9	Keypad Connection	• Connection for the display keypad
J13	Power Connection	• Non-power-limited • Uses cable P/N 75637 • Connects to TB1 on the AMPS-24/E power supply • If power supply is located in another enclosure, cable must be encased in conduit • Power supply enclosure must be within 20 feet of fire panel enclosure to accommodate cable length
J14	Future Use	• Do not use at this time
J15	USB B - VeriFire Tools Connection	• USB connection for VeriFire Tools communication to the panel (Standard B)
SW1	Security Switch	• Used to toggle TB1 between Security and Alarm operation
SW2	Supervisory Switch	• Used to toggle TB2 between Supervisory and Alarm operation
SW3	Acknowledge Switch	• Service level Acknowledge switch for local operation without a keypad/display
SW4	Signal Silence Switch	• Service level Signal Silence switch for local operation without a keypad/display
SW5	System Reset Switch	• Service level System Reset switch for local operation without a keypad/display
SW6	Lamp Test Switch	• Service level Lamp Test switch for local operation without a keypad/display

Table 1 CPU2-3030(CPU2-3030DC for Canada only) Wiring Connections (1 of 2)

Terminal Block/ Connector/ LED	Description	Specifications
LED 1	Power	• Illuminates when AC power is within normal operating limits
LED 3	Fire Alarm	• Illuminates when at least one fire alarm event exists. It will flash if any of these events are unacknowledged.
LED 4	Status	• This LED is for factory use only
LED 5	CPU Failure	• Illuminates if there is an abnormal hardware or software condition. Contact technical support. The panel is out of service when this LED is illuminated or flashing
LED 6	System Trouble	• Illuminates when at least one trouble event exists. It will flash if any of these events are unacknowledged
LED 7	Security	• Illuminates when at least one security event exists. It will flash if any of these events are unacknowledged
LED 8	Pre-Alarm	• Illuminates when at least one pre-alarm event exists. It will flash if any of these events are unacknowledged
LED 9	Supervisory	• Illuminates when at least one supervisory event exists. It will flash if any of these events are unacknowledged
LED 10	Signals Silenced	• Illuminates if the NFS2-3030 Notification Appliances have been silenced. If flashes is some but not all the NFS2-3030 NACs have been silenced
LED 11	Point Disabled	• Illuminates when at least one device has been disabled. It will flash until all disabled points have been acknowledged
LED 12	Other Event	• Illuminates for MNS alarms, process monitor, CO alarm, CO pre-alarm, hazard alert or weather alert. It will flash if any of these events are unacknowledged
-	Controls Active	• On keypad only. Illuminates when the panel assumes control of local operation as primary display. For MN applications, will illuminate when controls are available

* Circuits are supervised for communication loss.

General Notes:

- Refer to the Notifier Device Compatibility Document for a list of Notification Appliance Circuits and Releasing Circuits. Refer to Section 6, “Compatible Equipment”, on page 67 for SLC devices that are compatible with the NFS2-3030.
- Refer to the Section 6, “Compatible Equipment” for a list of external accessories that are compatible with the NFS2-3030.
- SLC connection provided through the LCM-320/LEM-320. Refer to page 5 for wiring the SLC and the *Notifier SLC Wiring Manual* for additional information.
- For NAC applications: NAC support provided via the FCPS-24S6/S8 or the ACPS-610. Refer to documents provided with these products for NAC application information.
- For Releasing Applications:
  The AMPS-24 can provide up to 3A for releasing applications, limited by the FCM-1-REL.
  The APS2-6R can provide up to 6A for releasing applications, limited by the FCM-1-REL.

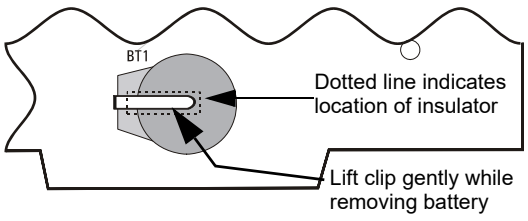
Table 1 CPU2-3030(CPU2-3030DC for Canada only) Wiring Connections (2 of 2)

1.1.2 Memory-Backup Battery

The lithium battery on the CPU provides backup of the CPU’s on-board memory during power loss.

The CPU ships with an insulator to prevent its lithium battery from discharging. To preserve the battery, this insulator should be left in place as long as possible before applying AC power. Some installers may find it convenient to remove the insulator before mounting all equipment.

If the insulator is not removed before applying AC power, a trouble will be displayed on the control panel.



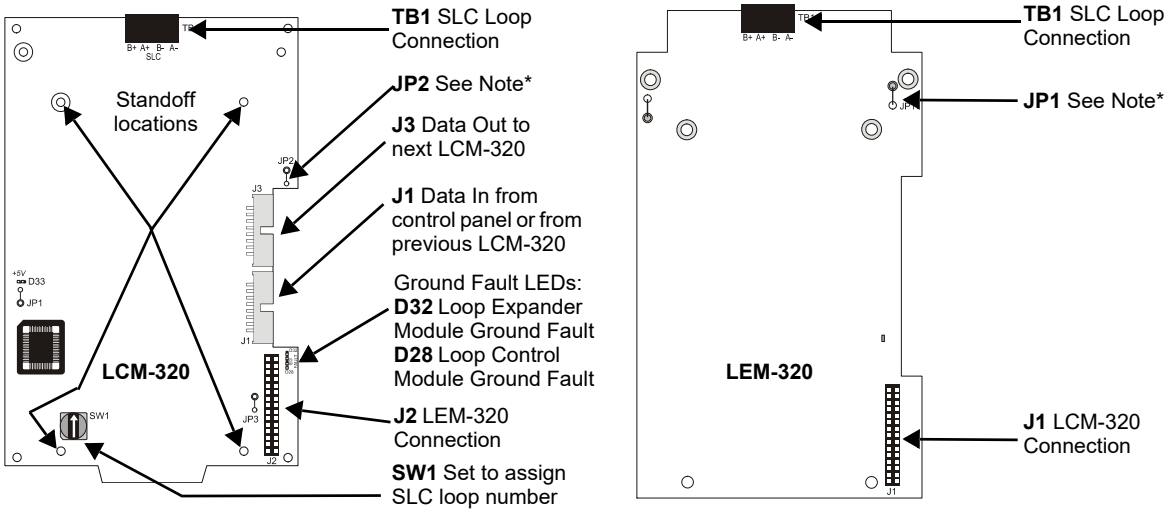
To replace the battery:

1. Make a full backup of all system settings to prevent loss of programming data.
2. Disconnect all power sources.
3. *CPU2-3030D only*: Disconnect wiring and remove *CPU2-3030D* from backbox (3 screws at the top, lift board and tabs out of slot) and remove keypad.
4. Remove battery from under the clip.(use fingers, tools could damage components)
5. *CPU2-3030D only*: replace keyboard, reinstall *CPU2-3030D* into chassis and reconnect wiring.
6. Power up the system.
7. Dispose of the used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

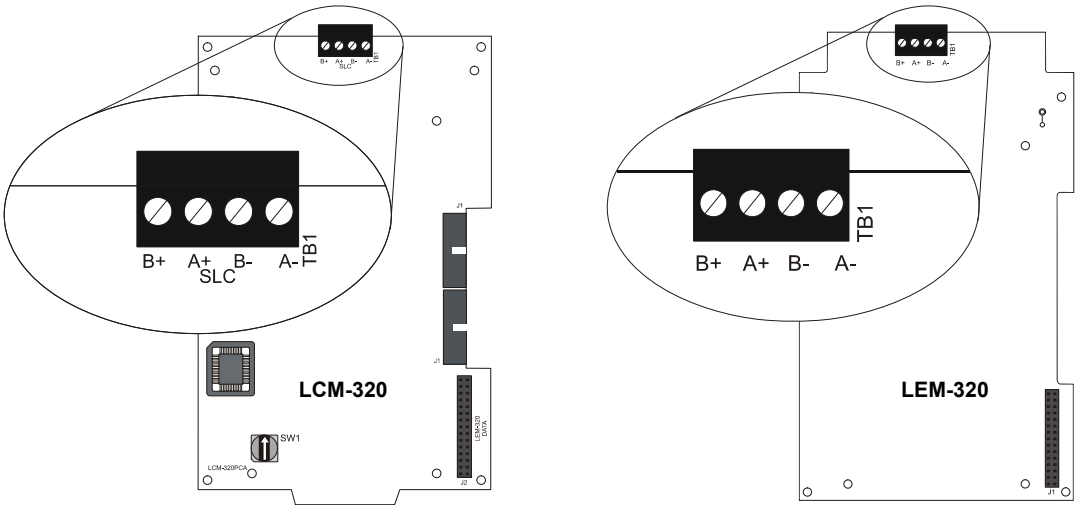
WARNING: RISK OF FIRE AND BURNS

THE BATTERY USED IN THIS DEVICE MAY PRESENT A RISK OF FIRE OR CHEMICAL BURN IF MISTREATED. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212°F (100°C) OR INCINERATE. REPLACE BATTERY WITH RAYOVAC LITHIUM 3 VOLT BR2335 OR EQUIVALENT ONLY. USE OF ANOTHER BATTERY MAY PRESENT A RISK OF FIRE OR EXPLOSION.

1.1.3 Loop Control and Loop Expander Board Layout and Wiring Connections



***NOTE:** Do not cut any jumpers on the LCM-320 or LEM-320.



TB1	SLC Loop	• Voltage: 24 VDC nominal voltage, 27.6 VDC maximum voltage • Maximum Current: 400 mA max, 200 mA average (short circuit will shut down the circuit until the short is fixed) • Wiring Configuration: (Class A, X or B) • Maximum Length: 12,500 ft (3810 m) total loop length (NFPA Class A, X, and B) • Maximum Resistance: 50 ohms (Class A, X, or B) • Device Capacity (per loop): If loop set as FlashScan: 01- 159 Intelligent Detectors, 01 -159 Monitor/Control Modules If loop set as CLIP: 01-99 Intelligent Detectors, 01-99 Monitor/Control Modules • Maximum Capacitance: 0.5 microfarads for all SLC wiring • Ground Fault Impedance: 0 ohms • Supervised • Power-limited (Class 2) • Connect up to five Loop Control Boards. Additional five loops available with the addition of the Loop Expander Module.

Figure 3 LCM-320 and LEM-320 Board Layout and Connections

1.2 Laying Out Equipment in Cabinet and Chassis

The NFS2-3030 can be installed in CAB-3 or CAB-4 series backbox using either the CHS-M3 or CA-2 chassis. Additional rows of equipment can be door-mounted or chassis mounted on rows below the CHS-M3 or CA-2. For additional information on the CAB-3 and CAB-4 series backbox, refer to the *CAB-3/CAB-4 Series Cabinets Product Installation Document*, document number 15330. Additional components available in the CAB-4 Series include:

- CHS-4/CHS-4N/CHS-4L - Chassis for mounting additional equipment.
- DP-DISP - Inner dress panel for covering backbox area surrounding various modules; for use in the top row.
- DP-DISP1- Inner dress panel for covering backbox area surrounding various modules; for use in top row with NCD ONLY.
- BMP-1 - Blank module plate for covering any unused module positions. Provides an additional location to mount an option board that does not need to be accessible or visible when the door is closed.
- BP2-4 - Battery dress panel.
- DP-1B - Blank panel for covering recessed equipment in second, third, or fourth rows of the backbox.
- ADP-4B - Annunciator dress panel; for use in all but the top row.

NOTE: When designing the cabinet layout, consider UL requirements regarding separation of power-limited (Class 2) and non-power-limited wiring. Refer to*1.4, "UL Power-Limited Wiring Requirements"* on page 11 and your power supply manual.

1.2.1 Earth Ground

To meet UL wiring requirements, install grounding straps on the backbox as shown below.

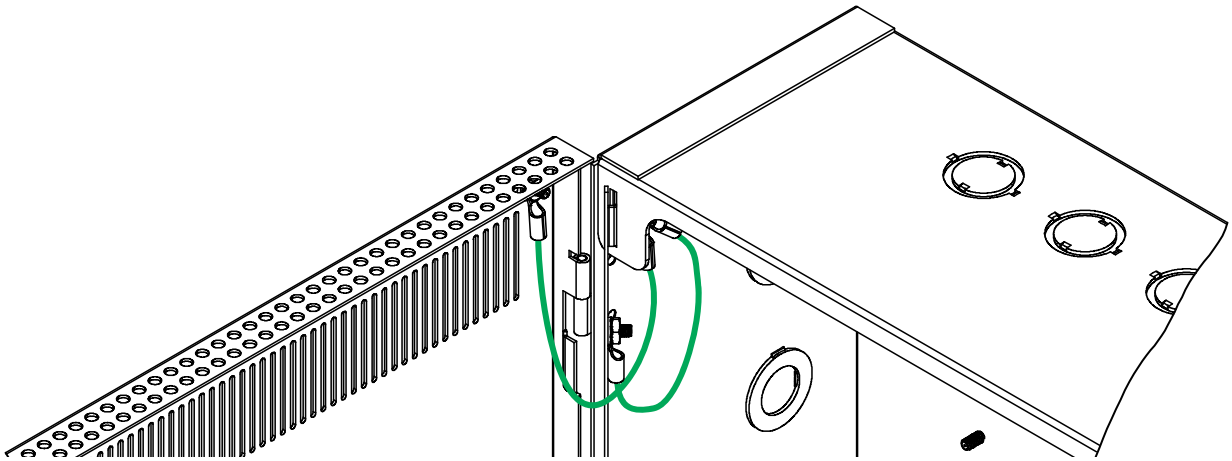
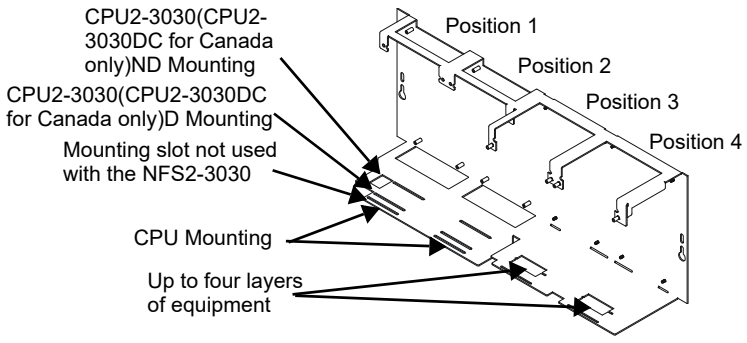


Figure 4 Installing Grounding Straps

1.2.2 CHS-M3 Chassis

- Mounts in the top row of the cabinet
- CPU2-3030 (CPU2-3030DC for Canada only) (with or without optional display) occupies the left half (positions 1 and 2) of the chassis.
- Can hold up to 4 layers of equipment, including option boards and annunciators (8 boards total).
- Additional equipment can be door mounted in front of the CHS-M3 (refer to Figure 7) or in additional chassis below.
- Proper CPU2-3030(CPU2-3030DC for Canada only) positioning with or without a display is determined by mounting the CPU in the proper slot and using the correct stand-offs:
  - CPU2-3030 D (with keypad and display): 1.5 inch (38.1mm)
  - CPU2-3030ND (without keypad and display: 0.25 inch (6.35mm)



CPU Mounting and Chassis Positions

NOTE: Due to the difficulty of reaching under the keypad, it may be convenient to remove the insulator from the lithium memory-backup battery before mounting the CPU on the chassis.

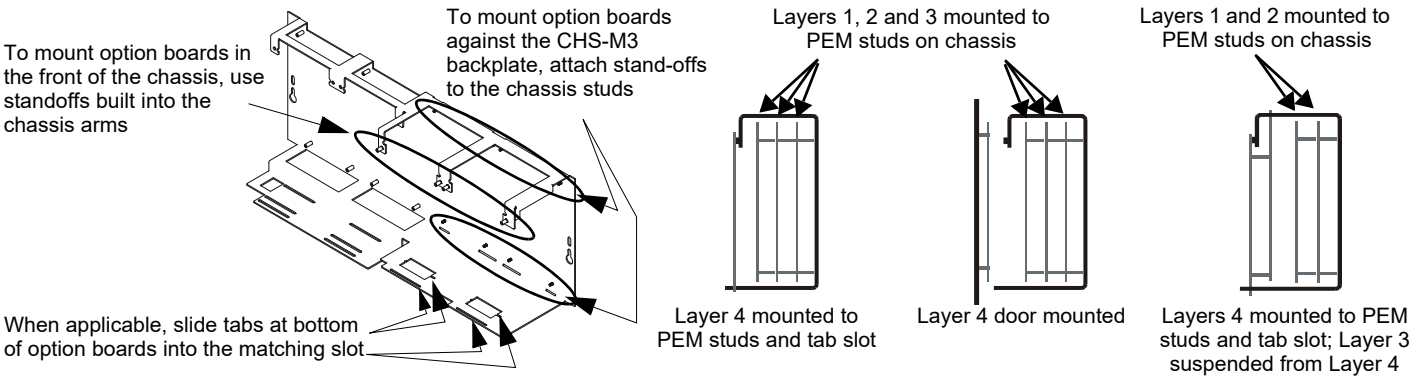


Figure 5 Chassis CHS-M3 Equipment Mounting Options

1.2.3 Option Board Mounting Procedures

Steps to mount option boards are as follows. Mounting instructions for option boards are the same in various dress panels. For Door mounting options, refer to Figure 7, "Door Mounting Option Boards with a Single-space Blank Plate" on page 8.

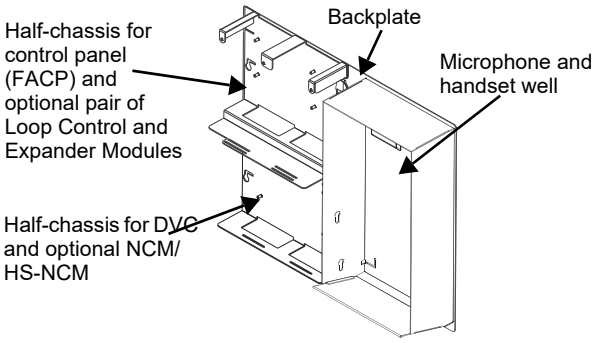
1. Install four 1 inch (25.4 mm) stand-offs on the chassis.
2. Install three 1/4 inch stand-offs on the chassis for NCD mounting ONLY
3. Place the first option board over the stand-offs so they line up.
4. **If no other option boards will be mounted in that position:** Securely fasten board to all stand-offs using screws provided with the module. **If mounting a second or third option board:** Attach another layer of stand-offs and repeat steps 2 and 3. Be sure to set the switches on the option boards before mounting another layer over the previous one. Refer to Figure 5 for layout options.
5. For the top layer of option boards, slide the tab at the bottom of the board into the slots on the chassis and lay the board back onto the top of the chassis so that the studs line up with the mounting holes on the option board. Securely fasten all stand-offs with screws provided with the module.

NOTE: For NCD mounting use the CPU 2-3030 NO DISPLAY mounting slot on the CHS-M3 with 1/4 inch standoffs.

1.2.4 CA-2 Chassis

- Occupies two rows of the cabinet.
- Includes hardware to mount an audio command center.
  - Backplate to attach to the backbox
  - Two half-chassis, which take up the left half of the backbox row
  - A microphone and telephone handset well
  - A microphone
- CPU occupies the top left half of the chassis
- LCM-320/LEM-320 mounts behind the CPU (See below)
- DVC occupies the bottom left half of the chassis. Refer to the *DVC Manual* #52411 for setup options.

Microphone and optional TELH-1 telephone handset can be mounted in the microphone and handset well.



CPU Mounting and Chassis Positions

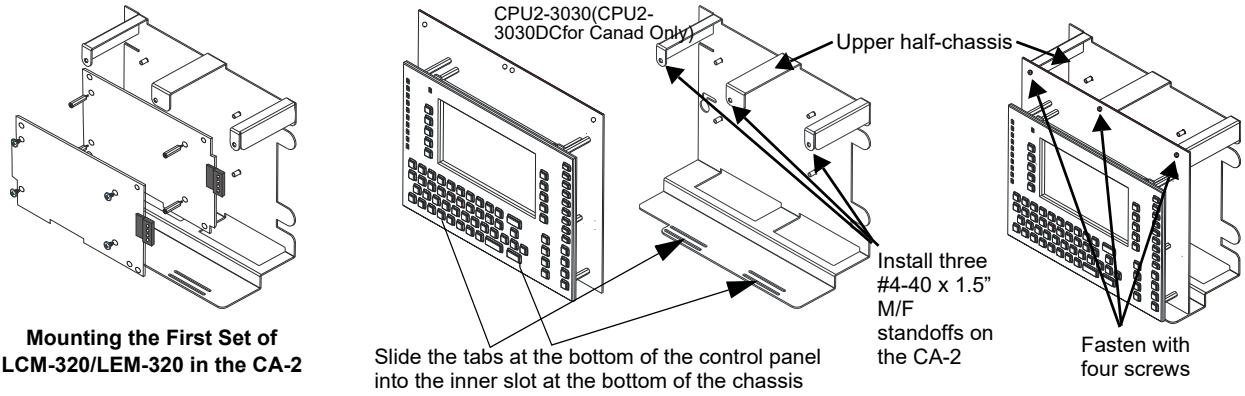


Figure 6 Chassis CA-2 Equipment Mounting Options

1.2.5 Door Mounting Option Boards

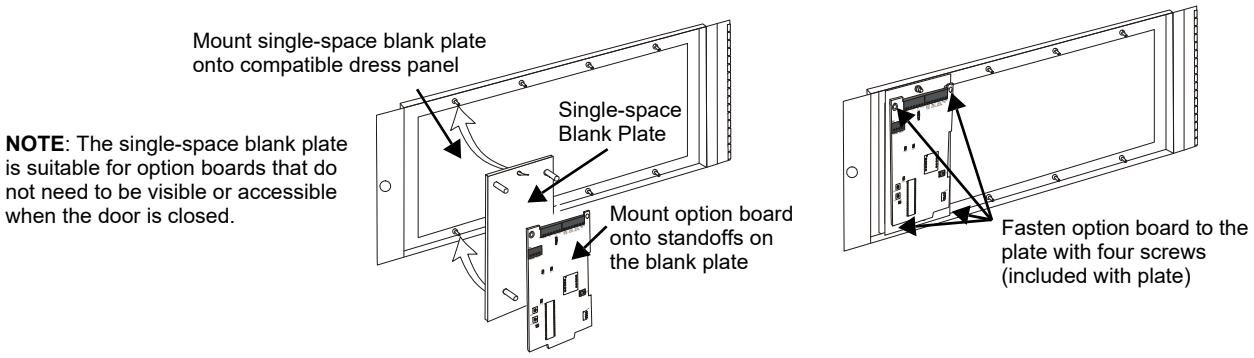
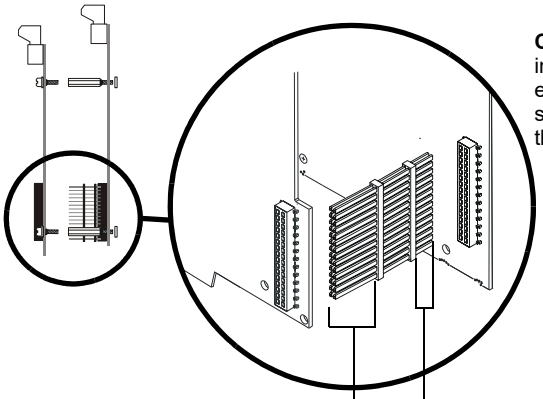


Figure 7 Door Mounting Option Boards with a Single-space Blank Plate

1.2.6 Loop Control and Loop Expander Modules (LCM-320/LEM-320)



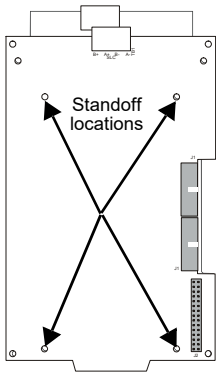
The long-pin end plugs directly into the back of the Loop Control Module board

The short-pin end plugs directly into the top of the Loop Expander Module plug

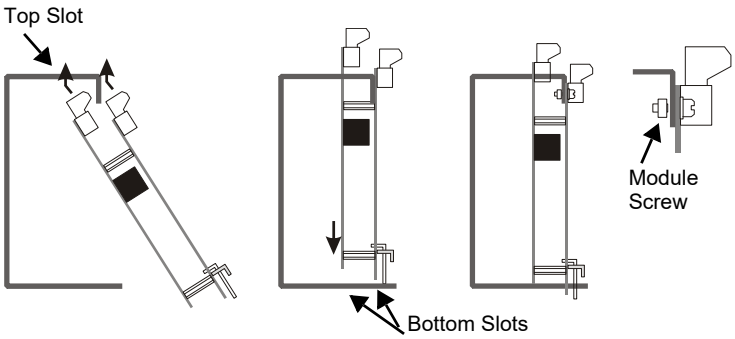
Connecting Loop Control Modules to Loop Expander Modules

CAUTION: If the stacker-connector is installed upside-down, the short-pin end of the plug can fail to make a secure connection when plugged through the Loop Control Module.

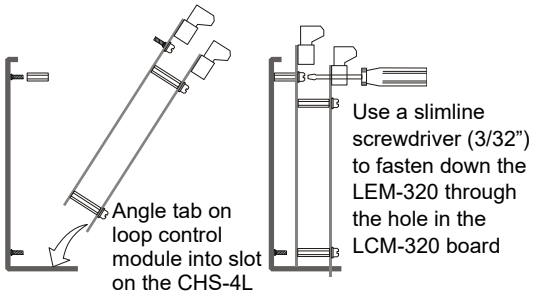
WARNING: Use specified stand-off mounting locations only. Do not use corner holes for installation purposes. It is critical that all mounting holes of the fire alarm control panel are secured with a screw or standoff to ensure continuity to ground.



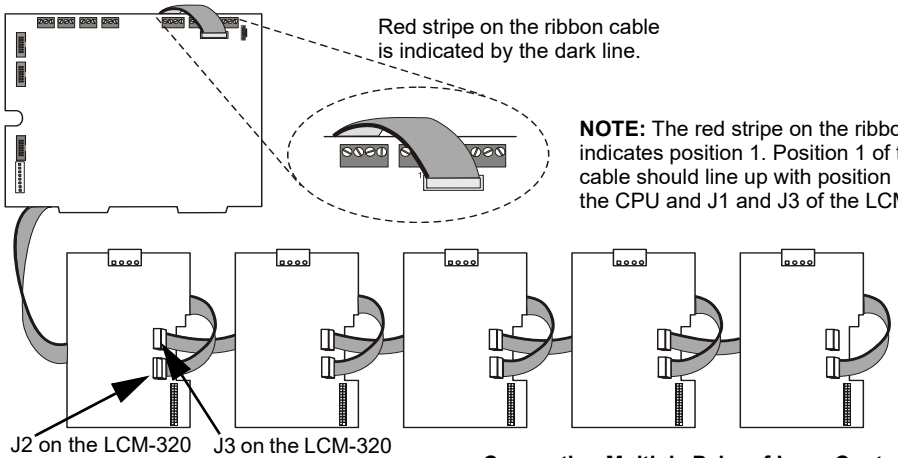
Loop Expander Module mounted behind Loop Control Module



Inserting a Two-Layer Module into CHS-4N or CHS-M3



Inserting a Pair of Loop Control and Expander Modules into a CHS-4L



NOTE: The red stripe on the ribbon cable indicates position 1. Position 1 of the ribbon cable should line up with position 1 on J7 of the CPU and J1 and J3 of the LCM-320.

WARNING: Install the ribbon cable as shown. Do not force or modify the cable to fit any other way. Equipment damage can result from incorrect alignment.

Connecting Multiple Pairs of Loop Control and Expander Modules

Figure 8 Connecting the Loop Control and Expander Modules

Note the following when installing the LCM-320/LEM-320 boards:

- LCM-320 and LCM-320/LEM-320 combinations can be mounted adjacent to the fire panel CPU or below in a secondary chassis within the same enclosure.
- Mounting two pairs of loop control and expander modules in one chassis position may cause intermittent electrical interference. If this occurs, move one pair to a separate chassis position.
- Set switches and other board settings before layering other boards on top.
- Each LCM-320 should be assigned a unique SLC loop number but does not have to match the module's location in the daisy chain.
- Up to five loop control modules and loop expander modules can be installed on the fire panel.
- If the loop is programmed for CLIP mode, do not program more than 99 devices on the loop. Refer *Loop Configuration* on page 42.
- Set SW1 on each LCM-320 to a unique SLC loop number using addresses 1, 3, 5, 7, or 9. If an LEM-320 is coupled with the LCM-320, it will have the next higher even number.

1.3 Connecting Power Sources and Outputs

WARNING: DISCONNECT ALL POWER SOURCES
SEVERAL SOURCES OF POWER CAN BE CONNECTED TO THE CONTROL PANEL. BEFORE SERVICING THE CONTROL PANEL, DISCONNECT ALL SOURCES OF INPUT POWER INCLUDING THE BATTERY. WHILE ENERGIZED, THE CONTROL PANEL AND ASSOCIATED EQUIPMENT CAN BE DAMAGED BY REMOVING AND/OR INSERTING CARDS, MODULES, OR INTERCONNECTING CABLES.

1.3.1 Primary Power Source

The NFS2-3030 uses the AMPS-24/E addressable power supply. The AMPS-24/E provides a total of 5A of power to the CPU and can recharge batteries ranging from 7 to 200 amp-hours. If the AMPS-24/E is mounted in a separate cabinet, power supply must be within 20 feet of the fire panel enclosure and wiring must be in conduit. To connect the AMPS-24/E to the NFS2-3030, perform the following steps:

1. Connect J13 on the CPU2-3030(CPU2-3030DC for Canada Only) to TB1 on the AMPS-24/E power supply using cable 75637.
2. Before connecting the batteries, check AC power to the system. (See below.)
3. Connect the batteries.

For additional information and to determine whether or not the system requires an auxiliary power supply, refer to the *AMPS-24/E Manual* document number 51907.

NOTE: UL 2610 Proprietary Burg requires 24 hours of standby power

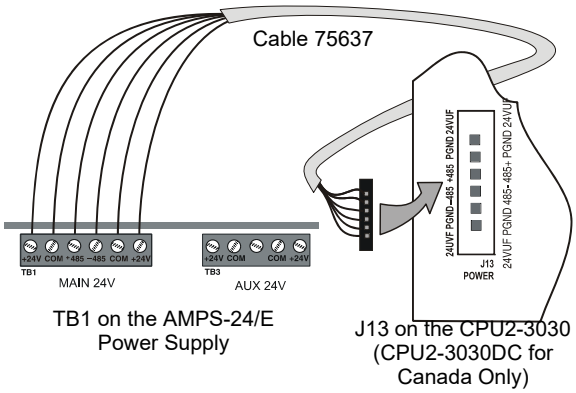


Figure 9 AMPS-24/E Connection to the CPU2-3030(CPU2-3030DC for Canada Only)

1.3.2 Checking AC Power

Table 2 contains a checklist for checking AC power applied to the system.

CAUTION: BATTERY CONNECTION
WHILE CHECKING POWER, ENSURE BATTERIES ARE NOT CONNECTED.

Component	Status
CPU2-3030(CPU2-3030DC for Canada only)	The green Power indicator will turn on when power is coming from the main power supply. The yellow Trouble indicator will turn on until the batteries are connected.
AMPS-24/E Main Power Supply	The green AC indicator will turn on when AC is supplied. The yellow Trouble indicator will turn on until the batteries are connected.
Each Auxiliary Power Supply	The yellow Trouble indicator will turn on because batteries are not connected.

Table 2 AC Power Checklist

1.3.3 Secondary Power Sources

Batteries provide +24 VDC secondary (backup) power. Batteries can be installed in the fire panel cabinet or in an optional battery backbox. All wiring must be encased in conduit. A secondary power source is required to support the system during primary AC loss. Refer to the manual for the *AMPS-24/E Manual,* document number 51907, for additional information on connecting secondary power.

NOTE: If using multiple power supplies with one set of batteries, refer to the main power supply manual for connection requirements.

1.3.4 External Power Sources

Additional power can be provided via auxiliary power +24 VDC power supplies that are UL/ULC-listed for fire protective service. For additional information on connecting auxiliary power supplies, follow connection procedures specified in the auxiliary power supply manual.

1.3.5 Accessory Power for Peripheral Devices

TB6 on the CPU draws power from the primary, secondary and external sources to pass +24 VDC power to devices within the same enclosure as the CPU. If those devices have outputs, those outputs must be power-limited (Class 2). Power rating is limited to the AMPS-24/E primary power source (+24 VDC, 5 Amps max) TB3 on the AMPS-24/E provides a secondary Accessory power source. Refer to the *AMPS-24/E Manual* for further details.

1.4 UL Power-Limited Wiring Requirements

Power-limited (Class 2) and non-power-limited circuit wiring must remain separated in the cabinet. The following requirements apply:

- All power-limited circuit wiring must remain 0.25 inches (6.35mm) from non-power-limited circuit wiring.
- All power-limited and non-power-limited circuit wiring must enter and exit the cabinet through different knockouts or conduits.
- If the device connected is only power-limited when connected to a power-limited source, the power limited marking must be removed, and at the time of installation, each non-power-limited circuit connected to these modules must be identified in the space provided on the cabinet door label.
- If additional knockouts are added to the backbox, proper separation of power-limited and non-power-limited wiring should be maintained.

NOTE: Relays are power-limited only when connected to power-limited sources for the relay outputs.

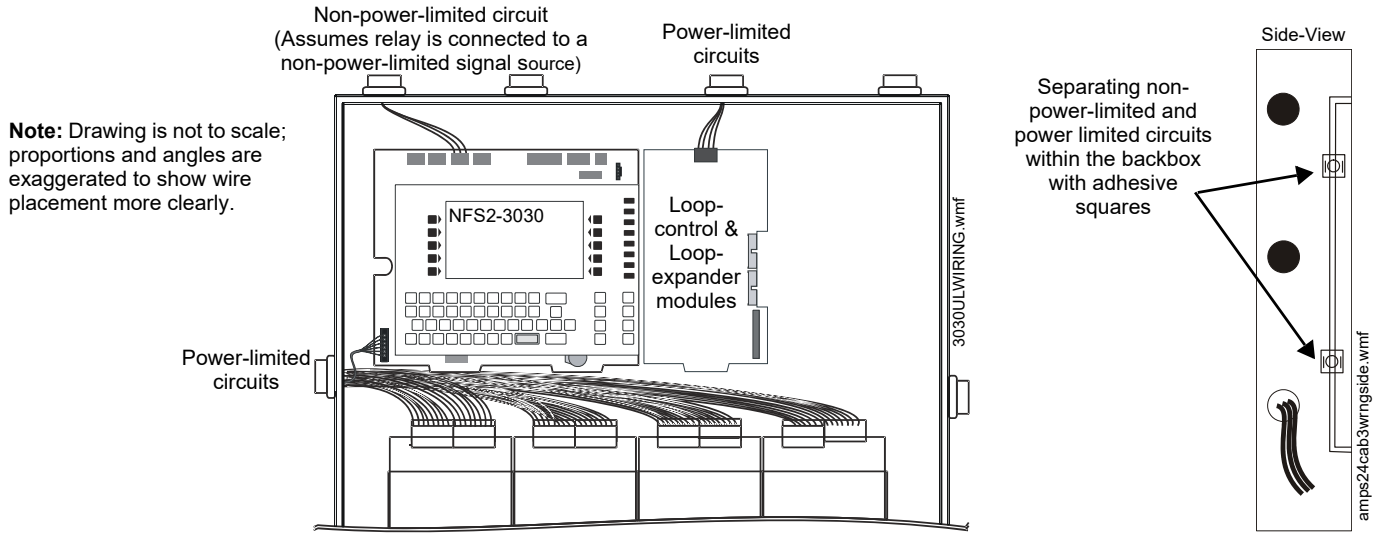
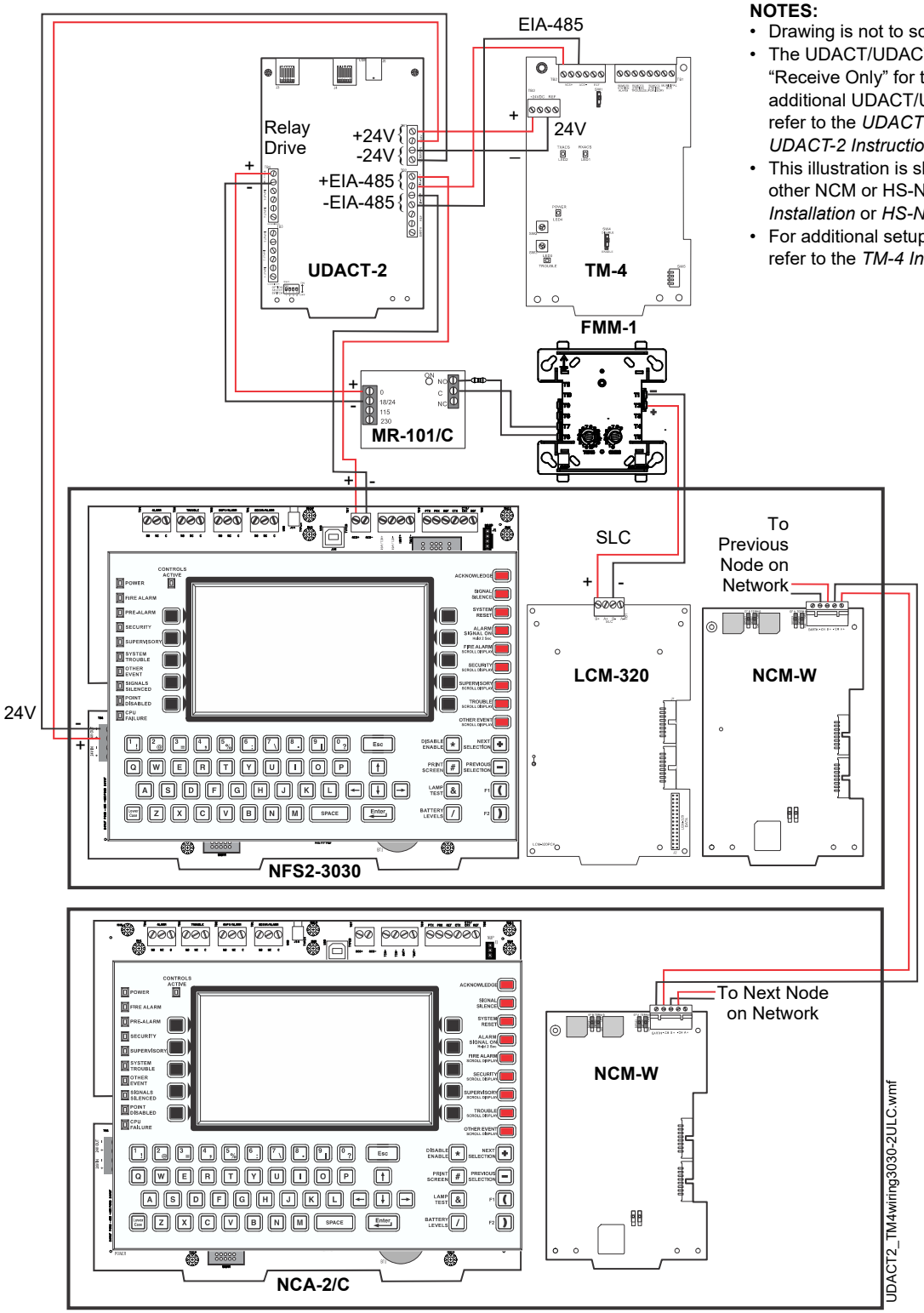


Figure 10 Typical Wiring in a Four-Row backbox

1.5 Central Station Fire Alarm System Canadian Requirements

For Canadian applications requiring a second dial-out option, refer to the following illustration for UDACT-2 and TM-4 setup:



NOTES:

- Drawing is not to scale.
- The UDACT/UDACT-2 should be set for "Receive Only" for this configuration. For additional UDACT/UDACT-2 setup information, refer to the *UDACT Installation Manual* or *UDACT-2 Instruction Manual*.
- This illustration is shown with the NCM-W. For other NCM or HS-NCM setup, refer to the *NCM Installation* or *HS-NCM Installation* documents.
- For additional setup information on the TM-4, refer to the *TM-4 Instruction Manual*.

Figure 11 Central Station Canadian Requirements for Second Dial-Out Connection

1.6 ULC Remote Connection Feature

ULC requires that devices such as TM-4 and UDACT/UDACT-2 be disconnected during annual testing to prevent transmission of false alarms.

Disconnecting TM-4 for Annual Testing: Follow standard installation procedures as described in the TM-4 installation documentation. To disable reporting, slide SW4 Disable All Output switch from "Enable" to "Disable." Refer to TM-4 documentation for product drawing.

Disconnecting UDACT/UDACT-2 for Annual Testing: Install UDACT/UDACT-2 as the last device on the EIA-485 line, with a listed key switch such as AKS-1B installed on the EIA-485 line. In this case only, install the ELR between the EIA-485 wires just in advance of the key switch (refer to Figure 12). The key switch should be installed so that key-removed is the closed position; it should be located inside the same backbox as the UDACT/UDACT-2, as close to the UDACT/UDACT-2 as possible.

NOTE: During testing when the key switch is turned, the panel will report a communication failure for the UDACT or UDACT-2's address.

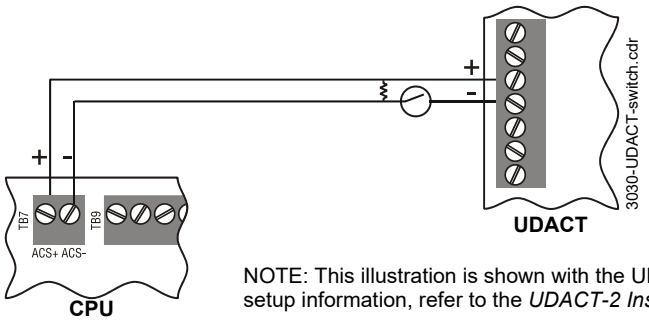


Figure 12 Wiring a Key Switch to Disconnect UDACT During Annual Testing

1.7 Devices Requiring External Power Supervision

With LCM-320 revision 2.0 and higher, certain type codes have external power supervision (FlashScan only) built into the software. An external power-supervision relay is required (see Figure 13) unless one of the following type codes is selected for the device:

- Control
- Strobe
- Horn
- (Blank)
- Release Ckt
- Rel Ckt ULC
- Nonreset Ctl
- Alarm Pend
- Gen Alarm
- Gen Super
- Gen Trouble
- Gen Pend
- Trouble Pend

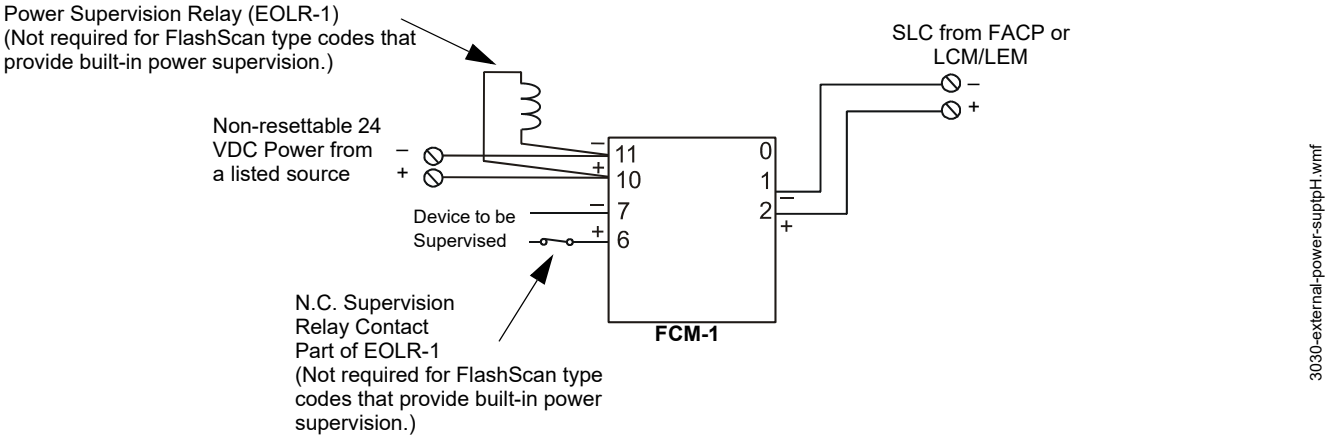


Figure 13 Enabling External Power Supervision Using Relays

1.8 NFPA 72 Central or Remote Station Fire Alarm System (Protected Premises Unit)

The figure below shows a typical wiring diagram for an NFPA 72 Central Station Fire Alarm System (Protected Premises Unit) or a Remote Station Fire Alarm System (Protected Premises Unit) using the Universal Digital Alarm Communicator/Transmitter (UDACT-2) and NFS2-3030. Connect and program the UDACT-2 according to the directions given in *The UDACT-2 Listing Document*.

NOTE: An NFPA 72 Central Station requires 24 hours of standby power; an NFPA 72 Remote Station requires 60 hours of standby power.

Typical wiring of a UDACT-2 with NFS2-3030:

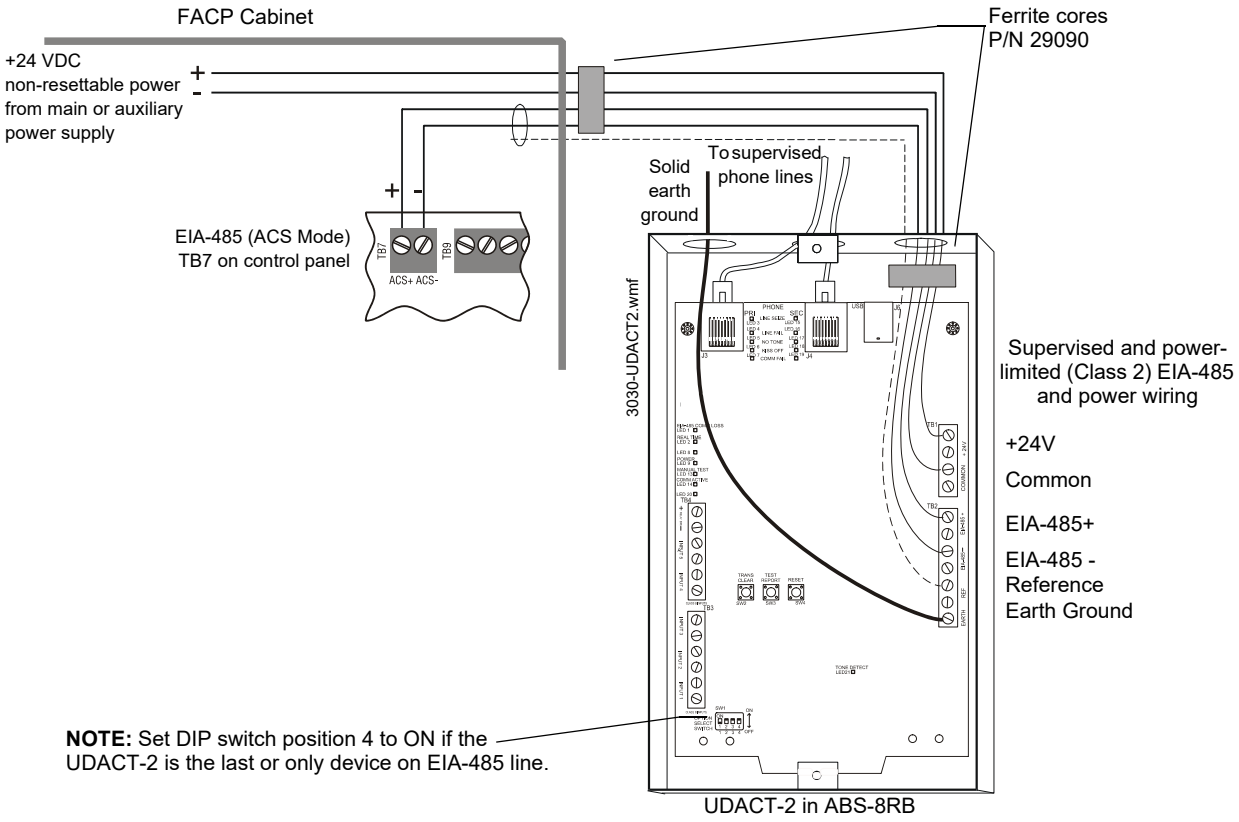


Figure 14 Typical Wiring Diagram for a Central Station Fire Alarm System

NOTE: This application can also be done with the TM-4 Transmitter; refer to the TM-4 Transmitter Module manual for more details.

NOTE: The following models do not comply with requirements for AC loss delay reporting when used with Central Station Protected Premises systems: AA-30, AA-120, AA-100, APS-6R, CHG-120.

NOTE: For additional setup information for UDACT, refer to the *UDACT Installation Manual*.

1.9 NFPA 72 Proprietary Fire Alarm Systems

When connected and configured as a protected premises unit with monitor and relay modules, the NFS2-3030 will automatically transmit General Alarm, General Trouble, General Supervisory, and Security signals to a listed compatible Protected Premises Receiving Unit. A simplified drawing of connections between the receiving unit and the NFS2-3030 protected premises unit is shown in Figures 15 and 16.

Connect the receiving unit to the protected premises unit as shown in Section 1.8 “NFPA 72 Central or Remote Station Fire Alarm System (Protected Premises Unit)”.

Install and program the Receiving unit with type codes and zone mappings shown in Figure 15. Refer to the programming manual for procedures.

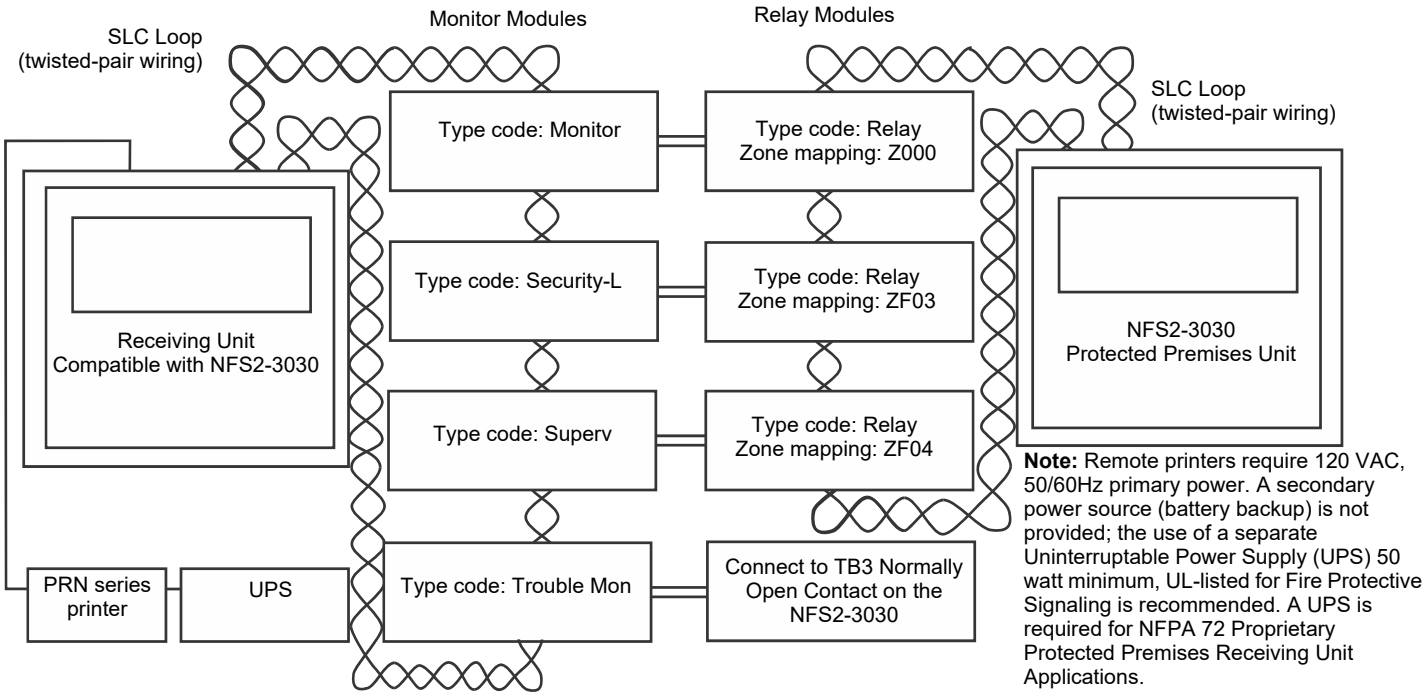


Figure 15 Typical Proprietary Fire Alarm Systems Wiring Connections: Block View of NFS2-3030

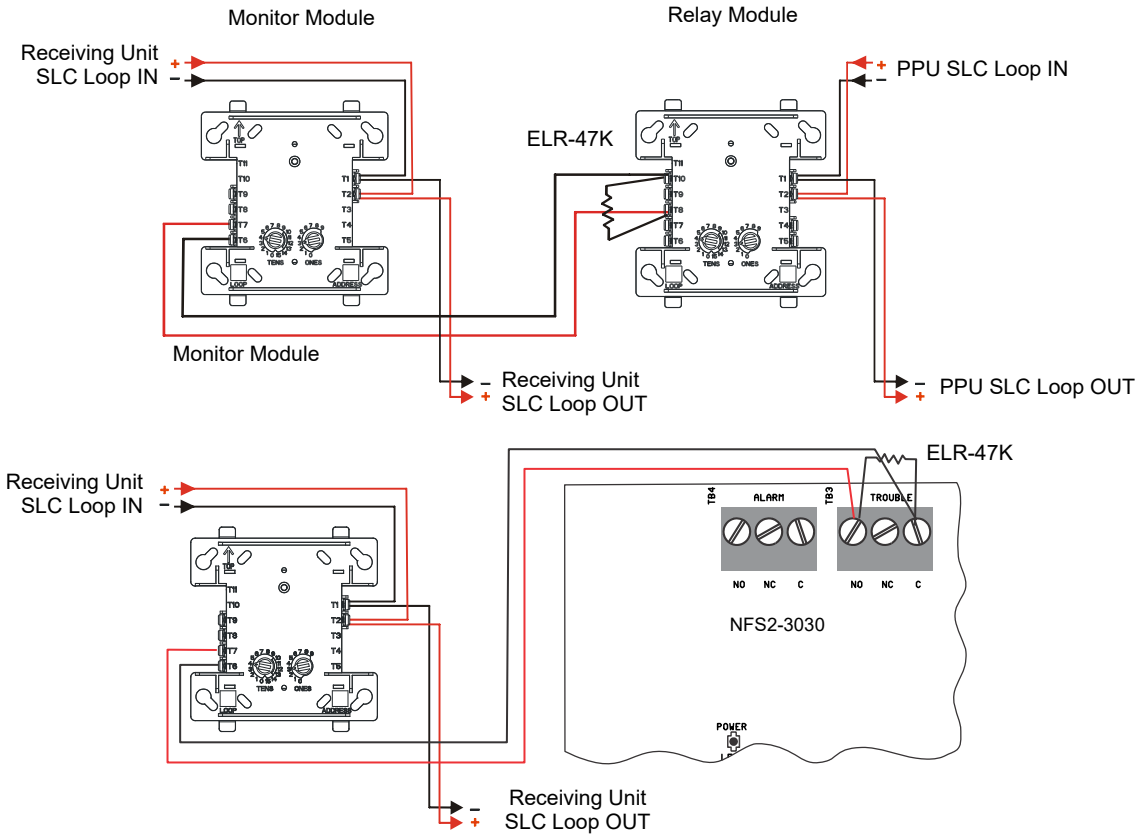


Figure 16 Typical Proprietary Fire Alarm Systems Wiring Connections: Detail Views

NOTE: The NFS2-3030 is not approved for use in security applications in Canada.

1.10 Fire/Security Applications

NOTE: The NFS2-3030 is not approved for use in security applications in Canada.

General Operation

The NFS2-3030 can be used as a combination Fire/Security system when installed and operated according to the instructions in this section.

For security applications, program one or more monitor module (listed for security applications) with the security-L, system monitor, or area monitor Type Codes, and wire as shown in Figure 18. Activating these types of modules lights the security LED, and displays a security alarm condition on the primary display. The panel sounder will sound until you acknowledge the Security alarm. You can also program additional sounders or output devices to activate with the security alarm initiating device. These type codes are designed to indicate an alarm in one or more of the following situations:

(a) on an open or short circuit
(b) on a ±50% change in resistance value from the End-of-Line resistor value
(c) on loss of communication with the device.

A tamper switch installed in the cabinet door will indicate a door tamper condition whenever the door is open. If the control panel indicates a Security alarm, you can perform acknowledge, signal silence, and system reset from the control panel.

CAUTION: WIRING
DAMAGE CAN RESULT FROM INCORRECT WIRING CONNECTIONS.

General Security Requirements

The following security requirements must be met:

- Use an AMPS-24/E power supply
- Shielded cable must be used on all input/output wiring associated with security functions.
- SLC Loop Shielding (refer to the *SLC Wiring Manual*)
- Security Module I/O Circuit Shielding - terminate the shield at earth ground at the junction box containing the module.
- When employed as a Protected Premises Unit, the control panels cabinet door must be wired with an STS-1 Tamper Switch that is monitored by the control panel
- If the system has arming and disarming capability, a ring-back signal from the Central Station to the arming location is required. The ring-back signal informs the Protected Premises Control Panel that the signal to arm/disarm has been received by the Central Station
- An ACM-24AT point must be programmed as ‘disable’ for each security point or zone programmed, doing so allows for a manual bypass before arming if the point or zone is in trouble
- A duplicate control panel or sufficient spare parts should be made available so that the control panel can be brought back online within 30 minutes of any failure
- There must be a sufficient number of ACM-24AT’s installed on the control panel to show the status of each zone or point so that each zone or point can be monitored Any ACM-24AT’s or optional annunciators must be installed inside the protected area
- A single control panel combines a Protected Premises Unit and Receiving Unit as a single unit, as such, it must be located in an area that is monitored at all times
- The Installer should be familiar with and follow the best practices set forth within ANSI/SIA CP-01 for troubleshooting and reduction in dispatch calls
- The loss of communication with the monitoring station shall be treated as an alarm condition by monitoring station personnel when the burglar alarm system is in the armed state and as a trouble condition while the system is disarmed
- Refer to the *SLC Wiring Manual (51253)* for additional information on required wiring sizes.

NOTE: For Security applications the maximum number of points on a system must be limited to 1000 or less.

There are five software type IDs associated with security operation: ACCESS MONITOR alarm, AREA MONITOR, EQUIP MONITOR, SECURITY-L, and SYS MONITOR. There is also one software function, Security Delay (SDEL). These software elements are essential to all aspects of security operation, including Control-By-Event (CBE) programming. Devices with the type IDs ACCESS MONITOR and EQUIP MONITOR do not automatically display at the LCD or require state change acknowledgment. State changes in devices with these software types may be output at a printer.

Installing a Security Tamper Switch

Follow the instructions below to wire the cabinet with a Security Tamper Switch kit model STS-1:

1. Install the STS-1 Tamper Switch onto the side of the backbox opposite the door hinge, pushing the switch through the opening until it snaps into place.
2. Install the magnet on the same side of the cabinet door as the lock. Push the magnet through the opening in the door until it snaps into place.
3. Connect the STS-1 connector to J6 Security on the CPU.
4. Program panel supervision for Tamper Input "Yes".

NOTE: Total SLC points connected to the FACP are limited to 1000 or less for security applications

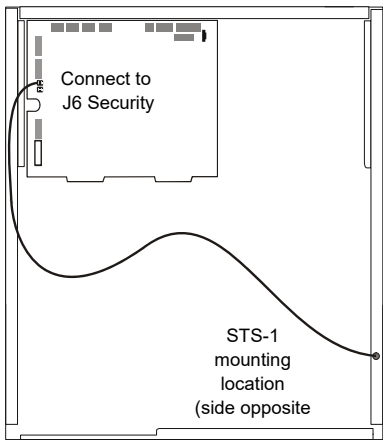


Figure 17 Installing the STS-1 Security Tamper Switch

Programming

The control panel can communicate with any number of security devices. To do so, select the address of the module to be used for security and assign one of the type codes described in General Security Requirements on page 16.

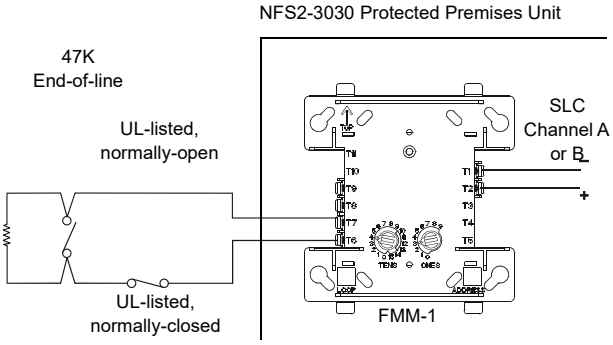


Figure 18 Wiring Diagram for Proprietary Security Alarm

Proprietary Security Alarm Applications

For security applications, program one or more monitor modules (listed for security applications) with a security type code.

Note the following:

•The module is programed as an ACCESS MONIITOR, AREA MONITOR, EQUIP MONITOR, SECURITY-L, or SYS MONITOR type code.

•Supplementary use applies to UL Systems only.

•NAC devices used for security cannot be shared with fire NAC devices.

•Refer to the Device Compatibility Document, document number 15378, for compatible NAC devices.

•All monitor modules used for security applications must be installed in the control panel with an STS-1 Security Tamper Switch.

Wiring for Proprietary Security Alarm Applications

Typical wiring for proprietary security alarm applications with the FMM-1 module.

Note the following:

- The module is programmed with one of five type codes (see "General Security Requirements" on page 16).
- Supplementary use only applies to UL-listed systems.
- NAC devices used for security cannot be shared with fire NAC devices.
- Refer to the *Device Compatibility Document* for compatible NAC devices.

NOTE: If NAC devices are used, the audible pattern for a Security Alarm signal should be distinct from a Fire Alarm

All monitor modules used for security application must be installed in the control panel cabinet with STS-1 Security Tamper Switch.

Connecting an RKS-S Remote Key Switch

The RKS-S Remote Key Switch arms and disarms the system. It can be mounted in a UL listed single-gang electrical box. Both the monitor module and RKS-S must be mounted within the protected area. Refer to the Product Installation Document (15984) for information on how to wire the RKS-S to a FMM-1 and FMM-101 module.

Single Tenant Security System with Entry/Exit Delay

The following system requirements are illustrated in Figure 19 on page 18.

- One NFS2-3030 Control Panel
- Multiple Security Supervisory Circuits Reporting to Central Station as a Single Area
- The minimum security equipment required is as follows:
  - Multiple MM Monitor Modules per Protected Area
  - One Group Interface for security alarm
  - One Group Interface to generate trouble arming system
  - Contact Switch for Each Entry/Exit Door
  - RKS-S Key Switch
  - MM Monitor Modules
  - Remote Annunciator for Each Entry/Exit Door (ACM-24AT, ACM-48A, ACM-16AT, ACM-32A)
  - Security Devices
  - RM Relay Module

– Compatible Printer

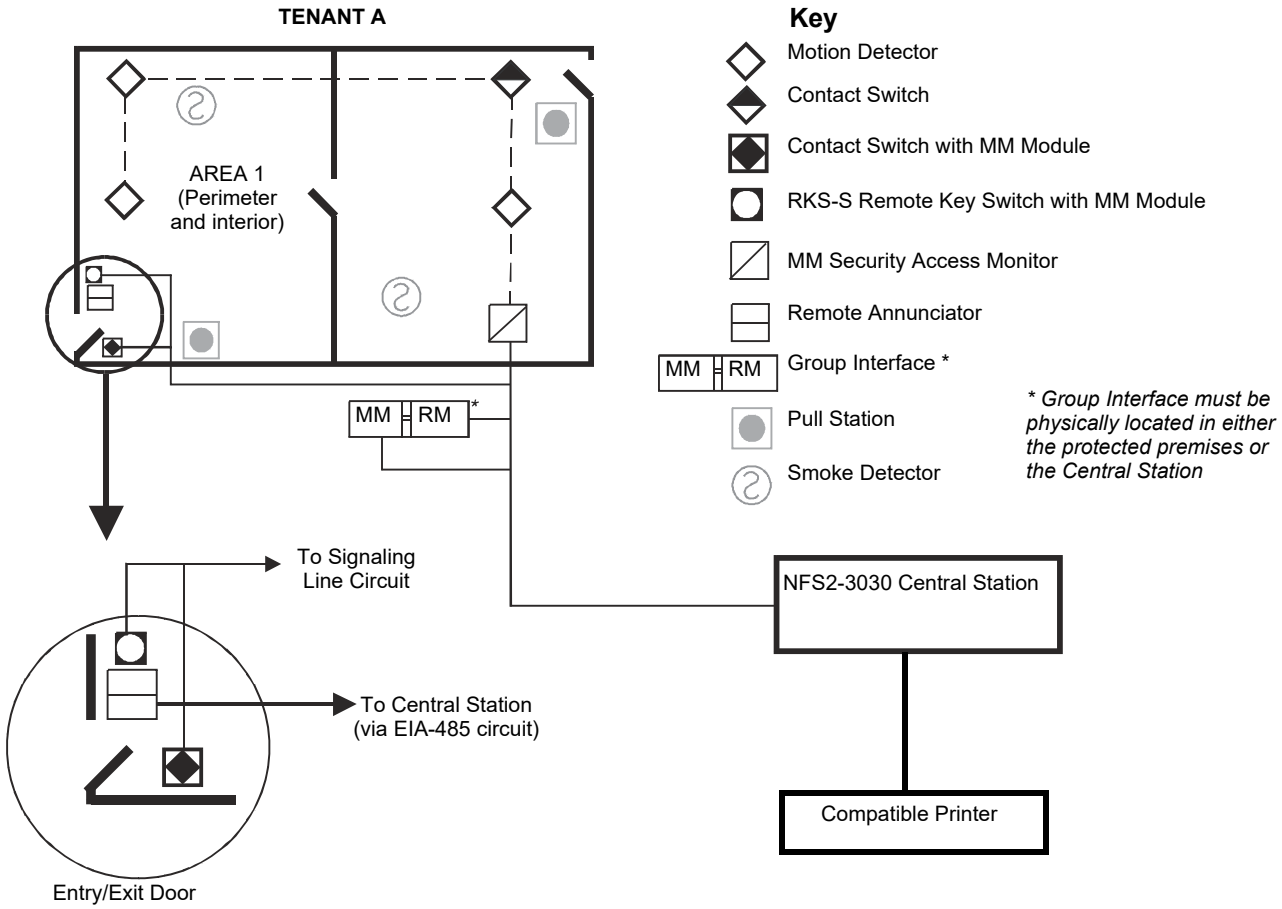


Figure 19 Single Tenant Security System with Entry/Exit Delay

Programming of Key Switch, Access Points, and Motion Detection

RKS Remote Key Switch with Monitor Module
Address: LXXMYYY (arbitrary)
Type ID: ACCESS MONITOR
Zone Map: (none)
Custom Label: Arming Switch

Contact Switches with Monitor Modules
Address: LXXMYYY (arbitrary)
Type ID: ACCESS MONITOR
Zone Map: ZA
Custom Label: Exit Door #

Motion Detectors with Monitor Modules
Address: LXXMYYY (arbitrary)
Type ID: ACCESS MONITOR
Zone Map: ZB
Custom Label: Motion Detection

5. Programming of Logic Equations

Logic Equation for 1 minute exit delay:
ZLa* = DEL(00:30, 00:00:00, address of key switch)

Logic Equation for Trouble arming system:
ZLb* = AND (ZA, address of key switch, NOT(Zla))

Logic Equation to arm system:
ZLc* = AND (ZLa, NOT(ZLb))

Logic Equation providing 30-second entry delay:
ZLd* = SDEL(00:00:30, 00:00:30, AND (ZA,ZLc)

Logic Equation for Security Alarm:
ZLe* = AND (ZLc, OR (ZLd))

*Follow the following restrictions on values:
a < b < c < d <e

6. Programming Group Interfaces

MM | RM Group Interface for Trouble when system is armed while access point(s) active

A. CM programming
Address:LXXMYYY (arbitrary)
Type ID:RELAY
Zone Map:ZLb
Custom Label:Arming Trouble Group Output
Signal Silence:No
Walk Test:Yes/No (Installer Specified)
Switch Inhibit:Yes
B. MM Programming
Address:LXXMYYY (arbitrary)
Type ID:TROUBLE MON
Zone Map:(none)

Group Interface for Security Alarm
A. CM programming
Address:LXXMYYY (arbitrary)
Type ID:RELAY
Zone Map:ZLe
Custom Label:Security Group Output
Signal Silence:No
Walk Test:Yes/No (Installer Specified)
Switch Inhibit:Yes
B. MM Programming
Address:LXXMYYY (arbitrary)
Type ID:SECURITY-L
Zone Map:(none)

Security Annunciation

A1P1
Mode: Monitor
Source: ZLc

A1P2
Mode: Monitor
Source: ZLe

A1P3
Mode: Monitor
Source: LXXMYY

A1P4
Mode: Monitor
Source: LXXMYY

Additional doors can be monitored, up to the number of available annunciator points.

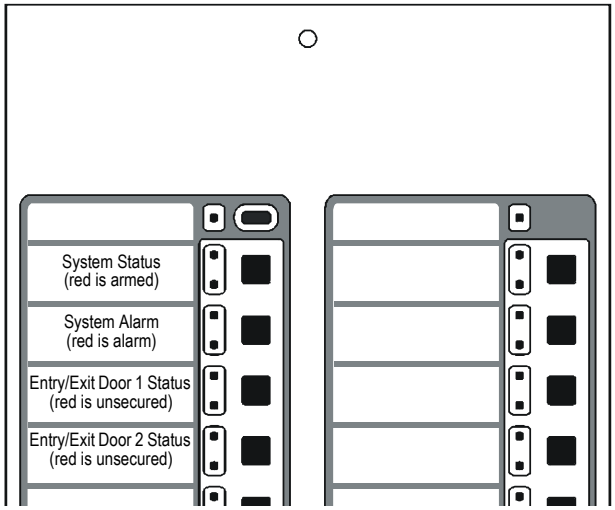


Figure 1.1 Sample Annunciator Display

1.11 Networking

The NFS2-3030 can be networked to another control panel or network control annunciator. Each panel (known as a node when networked) requires a Network Communications Module (NCM) or High-Speed Network Communications Module (HS-NCM). Refer to the *Noti•Fire•Net Version 5.0 & Higher Manual*, (document number 51584) and the *NCM Installation Document* (document number 51584) or the *High-Speed Noti•Fire•Net Manual* (document number 54013) and *HS-NCM Installation Document* (document number 54014) for system configuration information.

NOTE: NCM hardware is not compatible with HS-NCM hardware and should not be mixed on the same network.

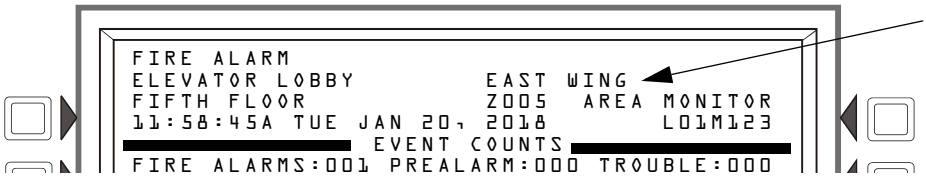
2 Operation

Following are the approved applications for the NFS2-3030:

NOTE: When operating as a Protected Premises Control Unit, the ONYXWORKS-WS is UL Listed for monitoring and control of fire, smoke control, and mass notification devices.

- Local Application
  - Emergency Relocation (paging, live and pre-recorded)
  - Emergency Communication (telephone)
- Protected premises unit
  - Auxiliary
  - Central Station
  - Remote Station
  - Proprietary
  - Proprietary (Rec unit)
- Communication transmission path
  - Coded
  - Non-coded
  - DACT, no line security
  - Reverse Polarity
  - Other transmission technologies, no line security
- Releasing
  - Cross Zone
  - NFPA 12 Co2 Fire Extinguishing Systems
  - NFPA 12A, Halon 1301 Fire Extinguishing Systems
  - NFPA 13, Sprinkler Systems
  - NFPA 15, Water Spray Systems
  - NFPA 16, Foam-water sprinkler and foam-water spray systems
  - NFPA 17, Dry Chemical Extinguishing Systems
  - NFPA 17A, Wet Chemical Extinguishing Systems
  - NFPA 72 Central Station (Automatic, Manual and Waterflow) Fire Alarm Systems
  - NFPA 72 Local (Automatic, Manual, Waterflow, and Sprinkler Supervisory) Fire Alarm Systems
  - NFPA 72 Auxiliary (Automatic, Manual and Waterflow) Fire Alarm Systems
  - NFPA 72 Remote Station (Automatic, Manual and Waterflow) Fire Alarm Systems
  - NFPA 72 Proprietary (Automatic, Manual and Waterflow) Fire Alarm Systems (Protected Premises Unit)
  - NFPA 2001, Clean Agent Fire Extinguishing Systems
- Process Control, Non-critical
- Regional Settings
  - Canada (see “Canadian Applications” on page 26)
  - Chicago
    - Panel’s Drill and Signal Silence keys will not function
    - Annunciator Control Modules and SLC modules given a drill or signal silence Mode or Type Code will not allow local drill or signal silence initiation
    - Events must be Acknowledged prior to system reset
- Fire Alarm Event
  - Initiating Device Activation
    - Produces a steady audible tone
    - Turns on the Alarm relay(s) (TB4, TB1 and TB2, if switch enabled)
    - Flashes the FIRE ALARM LED (red)
    - Displays a Type Code that indicates the type of fire alarm being generated
    - Latches the control panel in alarm (condition must be corrected and a reset performed to clear the alarm state from the panel)
    - Activates the General Alarm zone (Z000)
    - Displays FIRE ALARM in the status banner on the control panel, along with information specific to the device
    - Sends an Alarm message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
    - Initiates any Control-By-Event actions
    - Starts timers such as Silence Inhibit and Auto Silence
    - Sends a Alarm message to the proprietary receiver via the network, if applicable

NOTE: If the alarm event is initiated by a device with a waterflow type Code, the control panel will disable the Signal Silence key and the Auto Silence Timer.



For VESDA 4-Pipe Devices: When in alarm, the extended label will change to display the active pipes.
For FSA-20000P 4-Channel Devices: When a FACP with FSA devices installed is in alarm, the extended label will change to display the first active channel (NFS2-3030 only)

Sample Fire Alarm Message

– Responding to a fire alarm event:

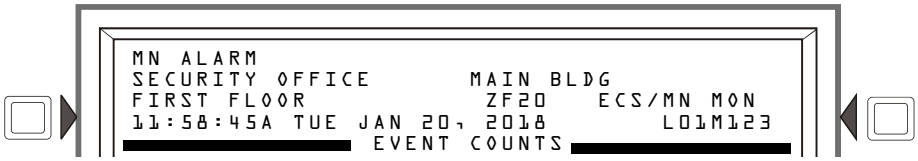
1. To silence the panel sounder and steady the flashing fire alarm LED: Press the acknowledge key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
   To silence activated outputs and steady the signals silenced LED: Press the signal silence soft key. A Signal Silence message is sent to remote annunciators, history buffer, installed printers and CRT-2s. All silenceable outputs will turn off.
2. Investigate and correct the condition that activated the Fire Alarm point.
3. Press the system reset key to return the control panel to normal operation. A "System Normal" message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

NOTE: If both Fire Alarms and Mass Notification Alarms are present on the fire panel at the same time, a second System Reset will need to be performed to reset the fire panel. The NFS2-3030 will display MN SYSTEM RESET or FIRE SYSTEM RESET, depending on which event has priority (Refer to Panel Settings on page 32).

- Mass Notification Event

NOTE: If the fire panel is Systems Normal and an MN event is detected via the network, the message NETWORK MN ACTIVE will be displayed in the status banner.

– Mass Notification Alarm (local activation with no other events on the fire panel)
  - Produces a steady audible tone
  - Does not turn on any Alarm relay(s) or any devices programmed as General Alarm or Alarm Pending
  - Activates any devices programmed as General Pending
  - Flashes the OTHER LED (yellow)
  - Displays a Type Code that indicates the type of MN alarm being generated
  - Latches the control panel in MN alarm (condition must be corrected and a reset performed to clear the alarm state from the panel)
  - Activates Special Zone (ZF20)
  - Displays MN ALARM in the status banner on the control panel, along with information specific to the device
  - Sends an MN Alarm message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
  - Initiates any Control-By-Event actions
  - Does not cause any devices programmed as "Resound by Fire" to resound
  - Does not send an MN Alarm message to the central control station via the network, if applicable



Sample MN Alarm Message

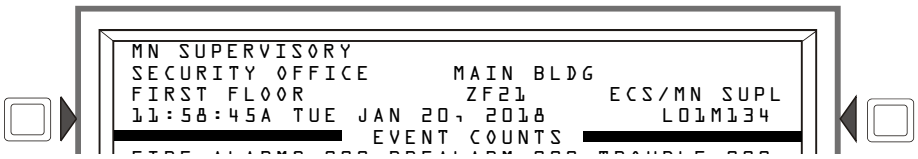
– Responding to a MN alarm event:

1. To silence the panel sounder and steady the flashing OTHER ALARM LED: Press the ACKNOWLEDGE key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
2. Investigate and correct the condition that activated the MN Alarm point.
3. Press the system reset key to return the control panel to normal operation. A "System Normal" message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

NOTE: If both Fire Alarms and Mass Notification Alarms are present on the fire panel at the same time, a second System Reset will need to be performed to reset the Mass Notification condition, depending on priority settings. (Refer to Panel Settings on page 32.)

– Mass Notification Supervisory Alarm (Does not suppress fire alarms if Mass Notification has priority over Fire. Refer to Panel Settings on page 32.)
  - Produces a warbling audible tone
  - Activates the Supervisory relay (TB2) and any devices programmed as General Supervisory and General Pending
  - Flashes the SUPERVISORY LED (yellow) on the fire panel and any annunciators programmed with a general supervisory point
  - Displays a type code that indicates the type of supervisory alarm being generated
  - Activates Special Function Zone ZF21
  - Displays MN SUPERVISORY in the status banner on the control panel, along with information specific to the device
  - Sends a Supervisory message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
  - Does not cause any devices programmed as "Resound by Supervisory" to resound

• Sends a Supervisory message to the central control station via the network, if applicable



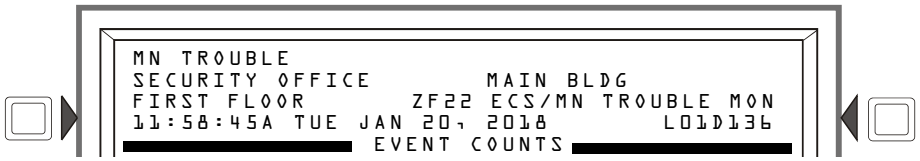
Sample MN Supervisory Message

– Responding to a MN Supervisory event:

1. To silence the panel sounder and steady the flashing supervisory LED: Press the acknowledge key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
2. Correct the condition that activated the supervisory point.
3. Press the SYSTEM RESET key to return the control panel to normal operation.
   A "System Normal" message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

– Mass Notification Trouble (Does not suppress fire alarms if Mass Notification has priority over Fire. Refer to Panel Settings on page 32.)

• Produces a pulsed audible tone
• Activates the Trouble relay (TB3) and any devices programmed as General Trouble, Trouble Pending and General Pending
• Flashes the SYSTEM TROUBLE LED (yellow)
• Displays a Type Code that indicates the type of device with trouble being generated
• Activates Special Function Zone ZF22
• Displays *MN TROUBLE* in the status banner on the control panel, along with information specific to the device
• Sends an trouble message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
• Does not cause any devices programmed as "Resound by Trouble" to resound
• Sends a Trouble message to the central control station via the network, if applicable



Sample MN Trouble Message

– Responding to an MN trouble event:

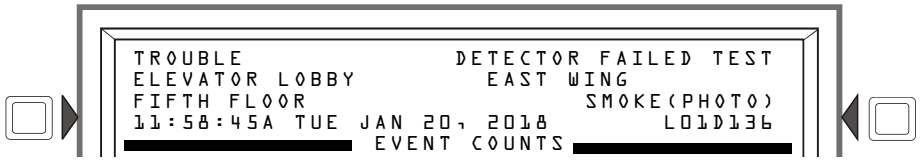
1. Press ACKNOWLEDGE to silence the panel sounder and switch the TROUBLE LED from flashing to steady. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
2. Investigate and correct the condition that initiated the trouble condition. The trouble condition should clear from the fire panel. A *Clear Trouble* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s. If no other conditions exist, the fire panel will return to Normal and will send a "Systems Normal" message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

• **Trouble Event**

– System or Point Trouble, electrical or mechanical faults (when no higher priority unacknowledged events exist)

• Produces a pulsed audible tone
• Turns on the Trouble relay (TB3)
• Flashes the SYSTEM TROUBLE LED (yellow)
• Point trouble: Displays a Type Code that indicates the type of device with trouble being generated
• Displays TROUBLE in the status banner on the control panel, along with information specific to the device
• Sends a trouble message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
• Sends a trouble message to the proprietary receiver via the network, if applicable

NOTE: If an unacknowledged, higher priority event exists, the control panel will retain the indications of the higher priority event, such as the LED, audible tone, etc. The Trouble relay, flashing SYSTEM TROUBLE LED and sending the trouble message to the history buffer printer, and annunciators will still occur at the time of the event.



Sample Point Trouble Message

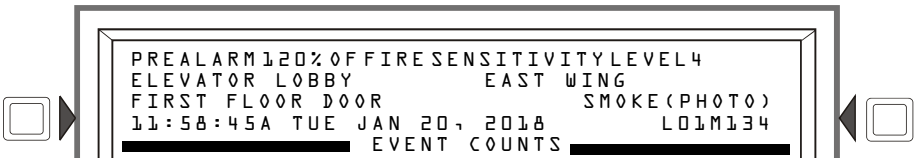
Sample System Trouble Message

– Responding to a trouble event:

1. Press the ACKNOWLEDGE key to silence the panel sounder and switch the TROUBLE LED from flashing to steady. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
2. Investigate and correct the condition that initiated the trouble condition. The trouble condition should clear from the fire panel. A *Clear Trouble* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s. If no other conditions exist, the fire panel will return to Normal and will send a *System Normal* message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

- Pre-alarm Event
  – Initiating device activation
    • Pulses the panel sounder
    • Flashes the Prealarm LED (red)
    • Displays PREALARM in the status banner on the control panel, along with information specific to the device
    • Sends a Prealarm message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
    • Sends a Prealarm message to the proprietary receiver via the network, if applicable

NOTE: If an unacknowledged, higher priority event exists, the control panel will retain the indications of the higher priority event, such as the LED, audible tone, etc. The flashing Prealarm LED and sending the Prealarm message to the history buffer printer, and annunciators will still occur at the time of the event.

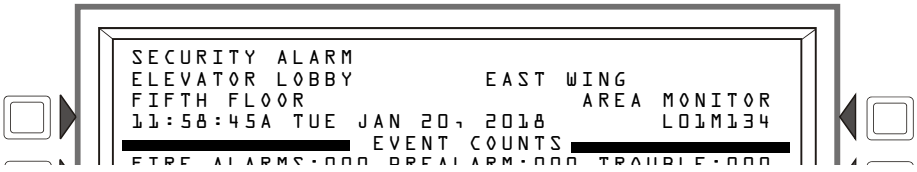


Sample Prealarm Message

– Responding to a Prealarm event:

1. To silence the panel sounder and steady the flashing Prealarm LED: Press the ACKNOWLEDGE key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
   To silence activated outputs and steady the signals silenced LED: Press the SIGNAL SILENCE soft key. A Signal Silence message is sent to remote annunciators, history buffer, installed printers and CRT-2s. All silenceable outputs will turn off.
2. Investigate and correct the condition that initiated the Prealarm condition.
3. The Prealarm condition may clear from the fire panel as the condition clears. If the Prealarm condition does not clear on its own when the problem is corrected, press the SYSTEM RESET key. A *Clear Prealarm* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s. If no other conditions exist, the fire panel will return to Normal and will send a *Systems Normal* message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

- Security Event
  – Proprietary Burglar Alarm Units and Systems
    • Produces a warbling audible tone
    • Turns on the Security relay (TB1)
    • Flashes the Security LED (blue)
    • Displays a Type Code that indicates the type of security alarm being generated
    • Displays ACTIVE in the status banner on the control panel, along with information specific to the device
    • Sends a Security message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
    • Sends a Security message to the proprietary receiver via the network, if applicable



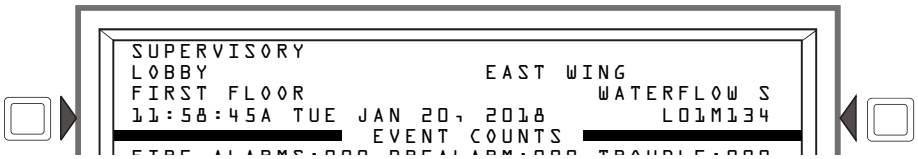
Sample Security Alarm Message

– Responding to a security event:

1. To silence the panel sounder and steady the flashing Security LED: Press the ACKNOWLEDGE key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
   To silence activated outputs and steady the Signals Silenced LED: Press the SIGNAL SILENCE soft key. A Signal Silence message is sent to remote annunciators, history buffer, installed printers and CRT-2s. All silenceable outputs will turn off.

2. Correct the condition that activated the Security point.
3. Press the system RESET KEY to return the control panel to normal operation. A *System Normal* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

- Supervisory Event (If a fire alarm exists and alarms are silenced, a supervisory alarm will resound the panel sounder.)
  - Module Type ID codes for latching and tracking. (See Point Programming on page 43.)
    - Produces a warbling audible tone
    - Turns on the Supervisory relay (TB2)
    - Flashes the Supervisory LED (yellow)
    - Displays a type code that indicates the type of supervisory alarm being generated
    - Displays SUPERVISORY in the status banner on the control panel, along with information specific to the device
    - Sends a Supervisory message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
    - Sends a Supervisory message to the proprietary receiver via the network, if applicable

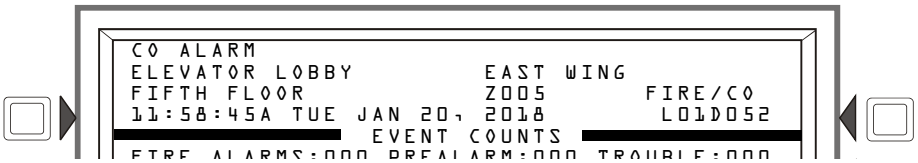


Sample Supervisory Alarm Message

  - Responding to a Supervisory event:

1. To silence the panel sounder and steady the flashing Supervisory LED: Press the ACKNOWLEDGE key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
   To silence activated outputs and steady the Signals Silenced LED: Press the SIGNAL SILENCE soft key. A Signal Silence message is sent to remote annunciators, history buffer, installed printers and CRT-2s. All silenceable outputs will turn off.
2. Correct the condition that activated the supervisory point.
3. For a Latching event, press the system reset key to return the control panel to normal operation.
   For a Non-Latching Event, the panel will return to normal operation once the supervisory condition is corrected.
   A *System Normal* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

- CO Alarm Event
  - Activation of a device (detector or module) with a CO Alarm type code. (See Point Programming on page 43.)
    - Produces a pulsed audible tone
    - Flashes the Other LED (yellow)
    - Displays the type code that indicates the type of CO Alarm being generated
    - Initiates any Control-By-Event actions. Activates CBE position 4
    - Activates Special Function Zone 18 (ZF18)
    - Latches the control panel in CO Alarm
    - Displays CO ALARM in the status banner on the control panel, along with information specific to the device
    - Sends a CO Alarm message to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s
    - Sends a CO Alarm message to the proprietary receiver via the network, if applicable



Sample CO Alarm Message

  - Responding to a CO Alarm event:

1. To silence the panel sounder and steady the flashing Other LED: Press the ACKNOWLEDGE key. An Acknowledge message is sent to the remote annunciators, history buffer, installed printers, and CRT-2s.
   To silence activated outputs and steady the signals silenced LED: Press the SIGNAL SILENCE soft key. A Signal Silence message is sent to remote annunciators, history buffer, installed printers and CRT-2s.
2. Correct the condition that initiated the CO Alarm.
3. Press the system reset key to return the control panel to normal operation.
   A *System Normal* message is sent to the LCD display, remote annunciators, history buffer, installed printers, and CRT-2s.

- Emergency Signaling, Type SM
- Smoke Control
  - Smoke Movement: All fires produce smoke, and the movement of smoke will follow the same pattern as the overall air movement within a building, often flowing away from the fire to unwanted areas. A smoke control system must be able to inhibit the flow of smoke within a building. Elements that cause the movement of smoke include one or more of the following:
    - Stack effect
    - Buoyancy of the smoke
    - Expansion

- Wind
- Elevator piston effect
- the HVAC system

– Principles of Smoke Control: The smoke control system uses a building's ventilation system to exhaust the fire floor and pressurize surrounding floors. The three major considerations for smoke control are:
  - Smoke containment
  - Purging
  - Door-opening forces
– HVAC Equipment: For smoke control applications, HVAC systems must have the following capabilities:
  - Supply outside air to a space
  - Return air from a space
  - Exhaust air from a space to the outside
– SCS/SCE: The SCS-8 Smoke Control Station and the SCE-8 Smoke Control Expander can be used in conjunction with this panel to provide smoke control capabilities. The SCS-8L Smoke Control Lamp Driver and the optional SCE-8L are used with the smoke control system to provide graphic annunciation.
– Dedicated/Non-dedicated Smoke Control System Wiring Diagrams: Figures 2 and 3 below show wiring for a dedicated and non-dedicated smoke control system performing the same fan control functions. The system in Figure 3 features an Energy Management System. Refer to the *SCS Series Manual*, document number 15712, for more detailed information on the Smoke Control System.

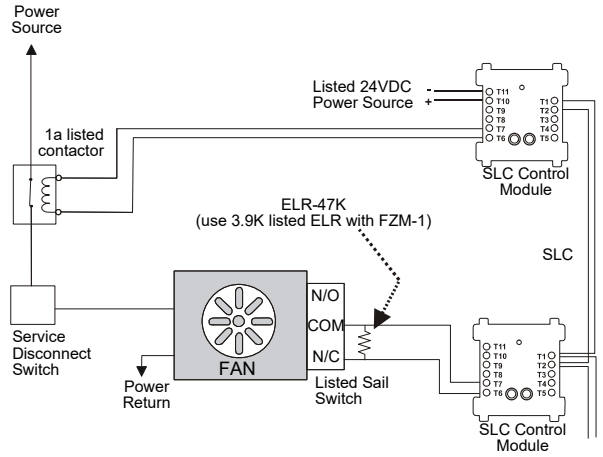


Figure 2 Dedicated Smoke Control System

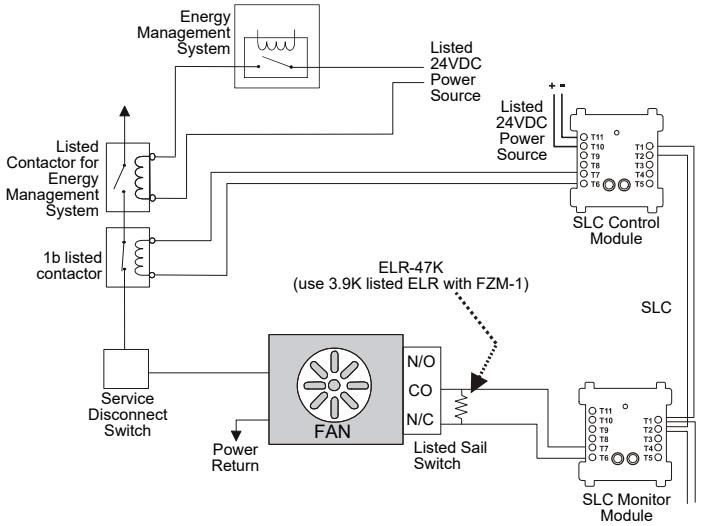


Figure 3 Non-Dedicated Smoke Control System

NOTE: When operating as a Protected Premises Control Unit, the ONYXWORKS-WS is UL Listed for monitoring and control of fire, smoke control, and mass notification devices.

3 Functionality

The following are approved functions for the NFS2-3030.

- Drift Compensation
- Remote Programming
- Extent/Limitations of Synchronization
  – No synchronization across networks
- Multiple Detector Operation
  – Units employing multiple detector operation shall include a minimum of two detectors in each protected space and reduce the detector installation spacing to 0.7 times the linear spacing in accordance with National Fire Alarm Code, NFPA.
- Positive Alarm Sequence
- Pre-signal
- Alarm verification
- Two-wire compatibility
  – One alarm per initiating device circuit
- Polling Style limitations
  – Polling Style is FlashScan or CLIP (Classic Loop Protocol)
  1. All detectors and modules on an SLC may be programmed as FlashScan. All detectors and modules must be FlashScan type devices. Maximum number of devices per SLC: 159 detectors, 159 modules.
  2. All detectors and modules on an SLC may be programmed as CLIP. Detectors and modules may be a mix of CLIP and FlashScan type devices, but all must be programmed as CLIP. Maximum number of devices per SLC: 99 detectors, 99 modules.
  3. All detectors may be programmed as CLIP, all modules as FlashScan, on an SLC. Detectors may be a mix of CLIP and FlashScan type devices, modules must all be FlashScan type devices. Maximum number of devices per SLC: 99 CLIP detectors, 159 FlashScan modules.

- Manual release /abort switch interaction
  - Activation of a Manual Release Switch will override Pre-discharge Delay and override an active Abort Release Switch, resulting in an immediate agent release.
- NAC Reactivation (NAC support provided by the FCPS-24S6/S8 or the ACPS-610)
- Primary power source failure indication
- DAC Communication Format
  - SIA
  - Contact ID
  - 4 + 2 Standard
  - 4 + 1
  - 3 + 1
  - 4 + 1 Ademco Express
  - 4 + 2 Ademco Express
- Interconnected control panels
  - Alarm, supervisory, and trouble conditions, as well as reset, alarm silence, or trouble silence actuation originating at this panel are annunciated at this panel. All interconnected panels must also connect to a network annunciator to display these conditions.
- Walk test
- Integrated/network local functionality
- Circuit disables
- Mapping
- Detection/alarm algorithms
- Day/night sensitivity
- Detection sensitivity adjustment
- Mass Notification
- Extent/limitations of combination system
  - Priority of signals
- Canadian Applications
  - Standalone Applications:
    - CPU2-3030D, with its integral keypad/display, meets Canadian requirements for standalone applications.
    - Two-Stage Systems (3/5 minute timer) - An ACM-24AT control point is required for Automatic Alarm Signal Cancel. Acknowledge will not cancel the Two-Stage timer. See the ACPS-610 Manual for additional programming information.
  - Network Applications:
    - The network's Manual Controls may only be operated from one location at any given time. When panels are networked (using NCM Network Communications Modules or High-Speed Network Communications Modules), use AKS-1B Key Switch on each panel's Primary Annunciator to enable its functions. NCA-2(NCA-2C for Canada Only) may be a Primary Annunciator when AKS-1B is installed.
    - The NCA-2 (NCA-2C for Canada Only) , or ONYXWorks may be employed as a Display and Control Center (DCC). In the event that communication fails between the panels and the Control Center, the panels will continue to function in local/standalone mode.
      If the DCC option is enabled on the NFS2-3030:

      An ACS control point mapped to the local Special Function zone ZF36 is required.

      An ACS monitor point mapped to ZF36 for each DCC and node that has DCC enabled on the network is required.
- Automatic Alarm Signal Silence:
  - For a system requiring annunciators, consult the Authority Having Jurisdiction.
- Auto Silence- If auto silence is enabled:
  - The value must be set to 20 minutes
  - An ACS point is required to monitor special function zone ZF40 for Auto Silence
    Activation of Auto Silence will activate the Signal Silence LED on the fire panel display and any ACM LED point programmed for Auto Silence.
- Annunciator Applications:
  - ACM series annunciator modules must be used to annunciate the fire alarm input points/zones only, if no multi-line sequential display is installed.
  - The following LED colors must be employed:
    - Red must be used to indicate active alarm inputs.
    - Yellow must be used to indicate supervisory, burglary, trouble signals, and Automatic Alarm Signal Cancel.
    - Green must be used to indicate the presence of power or an activated output.
  - The ACM point designated for Automatic Alarm Signal Cancel should be labeled as "Automatic Alarm Signal Cancel" or "Auto Alm Signal Cancel".
- Ancillary Devices:
  - For Canadian applications, if the DCC option is disabled (subject to AHJ approval), Acknowledge, Signal Silence, and System Reset will function as stated.
- Releasing Devices:
  - Supervision for shorts is required; use REL devices and type code REL CKT ULC. (With FCM-1 modules use REL-47K.)

4 Programming Options and Menu Navigation

4.1 Programming Features Subject to AHJ Approval

This product incorporates field-programmable software. The features and/or options listed below must be approved by the local AHJ..

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864/ULC-S527, certain programming features or options must be limited to specific values or not used at all as indicated below.							
Program Feature or Option	**Permitted in UL 864? (Y/N)**	**Permitted in UL 2610 (Y/N)**	**Permitted in ULC-S527 (Y/N)**	**Possible Settings**	**Settings Permitted in UL 864**	**Settings Permitted in UL 2610**	**Settings Permitted in ULC-S527**
IP downloads over a local area network (LAN) or the internet (Wide Area Network - WAN)	No	N/A	No	Yes No Timed	No	N/A	No
Releasing: Abort Switch	Yes	N/A	Yes	NYC AHJ ULI IRI	ULI IRI	N/A	ULI IRI
Detector Programming: Supervisory Type Codes	Yes	N/A	Yes	SUP L(DUCTI) SUP T(DUCTI) SUP T(DUCTP) SUP L(DUCTP) SUP L(ION) SUP T(ION) SUP L(PHOTO) SUP T(PHOTO) SUP L(LASER) SUP T(LASER) F/CO (P SUP)	SUP L(DUCTI) SUP T(DUCTI) SUP L(DUCTP) SUP T(DUCTP)	N/A	SUP L(DUCTI) SUP T(DUCTI) SUP L(DUCTP) SUP T(DUCTP)
AC Fail Delay Timer	Yes	N/A	Yes	None, or 1-12 hours	1-3 hours	N/A	1-3 hours
Regional Settings	Yes	N/A	Yes	Singapore Chicago Australia China Canada Korea	Chicago	N/A	Canada
DCC Enable	Yes	N/A	Yes	Enable/Disable	Enable/Disable	N/A	Enabled
FMM-4-20 Event Settings	Yes	N/A	Yes	No Event Trouble Fire Supervisory Security Nonfire Critical Process	No Event Trouble Supervisory Security Nonfire Critical Process	N/A	No Event Trouble Supervisory Security Nonfire Critical Process
Alarm Verification Time	Yes	N/A	Yes	0 to 240 seconds	0 to 60 seconds	N/A	0 to 60 seconds
Trouble reminder Duration: Wireless Applications	Yes	N/A	Yes	4 Hours 24 Hours	4 Hours	N/A	4 Hours
Alarm Reminder	Yes	N/A	Yes	24 Hours Off	24 Hours	N/A	24 Hours
Supervisory Reminder	Yes	N/A	Yes	24 Hours Off	24 Hours	N/A	24 Hours
CO Reminder	Yes	N/A	Yes	24 Hours Off	24 Hours	N/A	24 Hours
Presignal Delay/PAS[1]	Yes	N/A	No	Presignal Delay: 60-180 seconds PAS (Positive Alarm Sequence):15 seconds	Yes	N/A	No
Exit Time Dealy	N/A	Y	N/A	N/A	N/A	60 Sec. or Less	N/A
Entry Time Delay	N/A	Y	N/A	N/A	N/A	60 Sec. or Less	N/A

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864/ULC-S527, certain programming features or options must be limited to specific values or not used at all as indicated below.							
Program Feature or Option	**Permitted in UL 864? (Y/N)**	**Permitted in UL 2610 (Y/N)**	**Permitted in ULC-S527 (Y/N)**	**Possible Settings**	**Settings Permitted in UL 864**	**Settings Permitted in UL 2610**	**Settings Permitted in ULC-S527**
Auto-Silence	Y	Y	Y	OFF, 3, 10,15,20 Min.	OFF, 3-20	15, 20	10,15,20

1 For proper PAS operation, a CGW-MB may not be installed on the network.

4.2 Main Menu

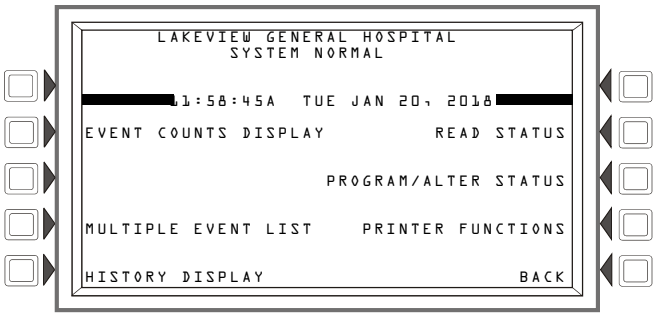
From the Main Menu of the NFS2-3030, the following options can be selected:

EVENT COUNTS DISPLAY: Display the event counts screen. This screen will automatically display if an off-normal event requiring acknowledgment occurs.

MULTIPLE EVENT LIST: Display off-normal events simultaneously in groups of eight. It displays automatically for off-normal events when the Canada event order has been selected. Refer to "Panel Settings" on page 32 for event order information.

HISTORY DISPLAY: Select a type of history event to view, to set time/date range, or point range viewing parameters for history. Refer to History Display (History Select) on page 28.

READ STATUS: Displays the point select screen. Use to view the present status of points, zones, and other system information. Refer to "Point Select Screen" on page 43.



Main Menu Screen

PROGRAM/ALTER STATUS: Display options for panel programming, point programming, autoprogramming, clear programming, altering the status of points, walk test, and other information. Refer to page 29.

PRINTER FUNCTIONS: Display options to print reports. This key will appear only if a printer operation has been selected. Refer to"Supervision" on page 40 for selection information.

4.2.1 History Display (History Select)

From the Main Menu, select History Display to view the panel's history file of alarm, trouble, supervisory and security events. Each event will be time and date stamped. All events are stored in a history buffer that can hold up to 1000 alarm events, and a total of 4000 of all event types, including alarms.

ALL EVENTS: Displays the entire history buffer, regardless of event type. The history buffer can hold up to a total of 4000 events, including alarms.

ALARMS ONLY: Displays only the alarm events stored in the history buffer. The history buffer can hold up to 1000 alarm events.

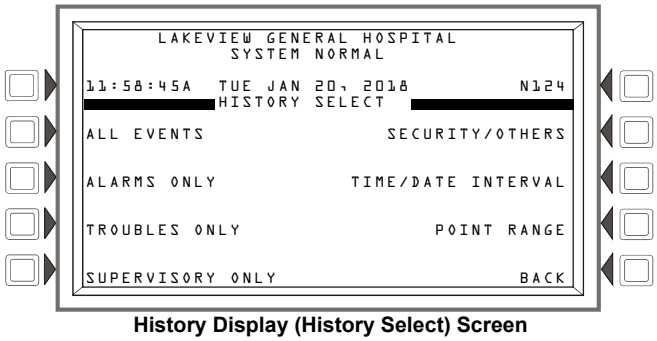
TROUBLES ONLY: Displays only the trouble events stored in the history buffer.

SUPERVISORY ONLY: Displays only the supervisory events stored in the history buffer.

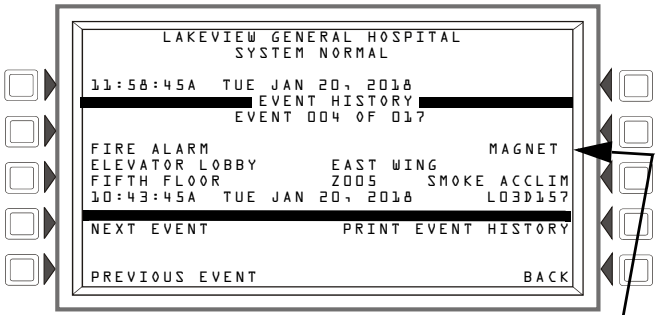
SECURITY/OTHERS: Displays only security and events deemed "other" stored in the history buffer. (i.e. Critical Process, Prealarm, CO Alarm, etc.)

TIME/DATE INTERVAL: Displays a screen to allow for the selection of a time period to define the range of events displayed, as well as specific event type. (i.e. All Events, Alarms Only, etc.)

POINT RANGE: Displays a screen to allow for the selection of a beginning and an end point that defines the range of events to be displayed.



History Display (History Select) Screen



MAGNET indicates that the device event occurred due to a magnet activation.

History Event Example Screen

4.2.2 Read Status

From the Main Menu, select Read Status to display the Point Select screen.
Scroll through the various point types until the desired point type is selected. Enter the parameters for the device and select ACCEPT to view the present status of the point. Refer to *"Point Select Screen" on page 43*.

4.2.3 Program/Alter Status Programming

From the Main Menu, select Program/Alter Status to change panel and point programming, clear and autoprogramming, to alter the status if points, or to perform a walk test. Refer to Section 4.3, “Programming/Alter Status Menu”, on page 29.

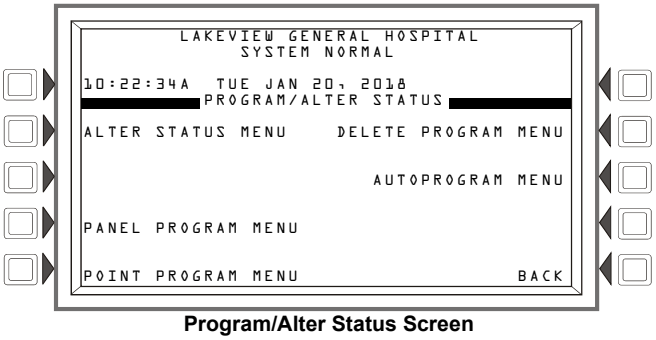
ALTER STATUS MENU: Displays the Alter Status menu. Refer to Section 4.3.1, “Alter Status”, on page 29.

PANEL PROGRAM MENU: Displays the Panel Program menu. Refer to Section 4.3.2, “Panel Programming”, on page 31.

POINT PROGRAM MENU: Displays the Point Program Menu. Refer to Section 4.3.3, “Point Programming”, on page 43.

DELETE PROGRAM MENU: Displays the Delete Program Menu. Refer to Section 4.3.4, “Delete Programming”, on page 62.

AUTOPROGRAM MENU: Displays the Autoprogram Menu. Refer to Section 4.3.5, “Autoprogram”, on page 62.



Program/Alter Status Screen

4.2.4 Printer Functions

From the Main Menu, select Printer Functions to print reports.

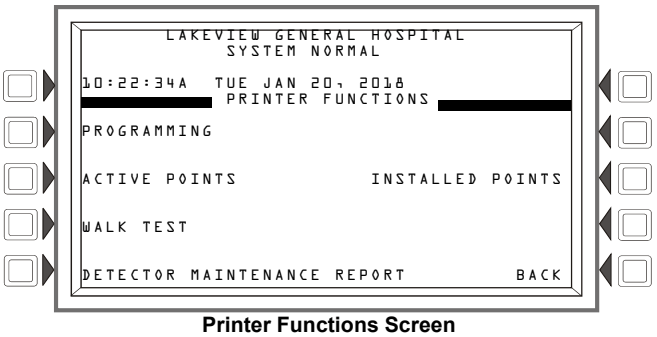
PROGRAMMING: Displays the Print Programming screen. Allows for the printing of Network Parameters, Panel Settings, Panel Timers, LCD Display, Supervision, Custom Action Messages and Event Logging information.

ACTIVE POINTS: Displays the Active Points screen. Allows for the printing of Alarms, Troubles, Supervisory Alarms, Security/Other, Prealarms, Disabled Points and Activated Points.

WALK TEST: Print point activations for the last Walk Test performed.

DETECTOR MAINTENANCE REPORT: Print a list containing the detector maintenance status for each installed addressable detector.

INSTALLED POINTS: Displays the Installed Points screen. Allows for the printing of SLC points, General Zones, Logic Zones, ACS, Releasing Zones, Special Zones, Trouble Zones and to select a range of installed devices.



Printer Functions Screen

4.3 Programming/Alter Status Menu

The following programming options are available through the Programming/Alter Status menu.

4.3.1 Alter Status

From the Program/Alter Status Menu, select Alter Status to change panel settings as a whole.

DISABLE/ENABLE: Displays the Disable/Enable Point Select screen to disable or enable a specific point or zone. Refer to page 64 for information on enabling/disabling a point.

DETECTOR SENSITIVITY: Displays the Detector Sensitivity Point Select screen to adjust the sensitivity of a specific detector.

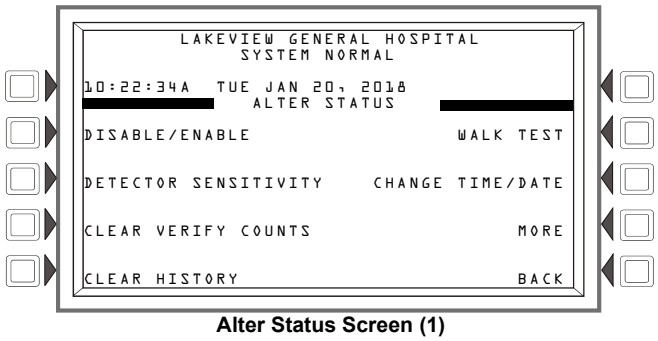
CLEAR VERIFY COUNTS: Displays the Clear Verify Counts screen to clear all counters for detectors selected for Alarm Verification.

CLEAR HISTORY: Displays the Clear History menu to clear Alarm History, Event History, or All History from the history buffer.

WALK TEST: Displays the Walk Test menu to test the entire fire system while away from the panel.

CHANGE TIME/DATE: Displays the Change Time/Date screen and adjust the date and time and select the time zone for the fire panel.

MORE: Displays the second Alter Status screen.

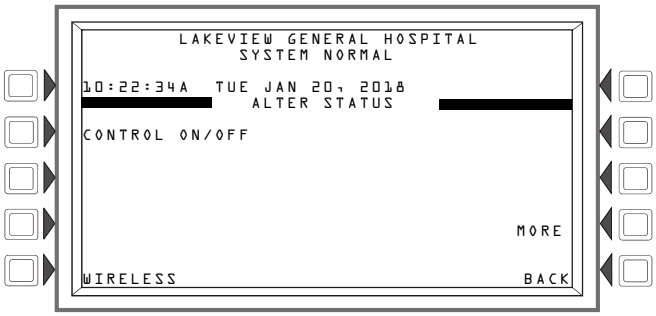


Alter Status Screen (1)

CONTROL ON/OFF: Displays the Control On/Off screen to turn control points on or off.

WIRELESS: .Displays the Wireless programming screen.

MORE: Displays the third Alter Status screen.

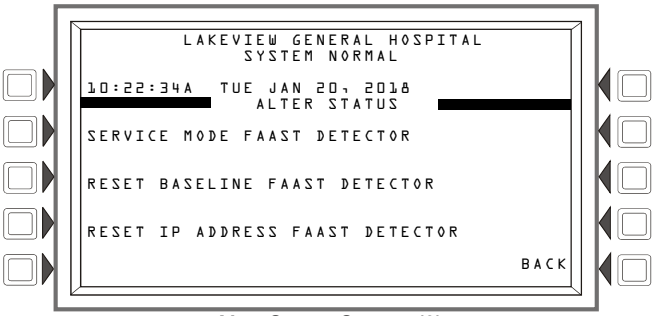


Alter Status Screen (2)

SERVICE MODE FAAST DETECTOR: Press to place the FAAST Intelligent Aspiration Detector into Service Mode. All 5 addresses associated with the FAAST detector will be placed in Service mode.

RESET BASELINE FAAST DETECTOR: Press to reset the baseline value of a FAAST Intelligent Aspiration detector.

RESET IP ADDRESS FAAST DETECTOR: Press to reset the IP Address of a FAAST Intelligent Aspiration detector to its default address.



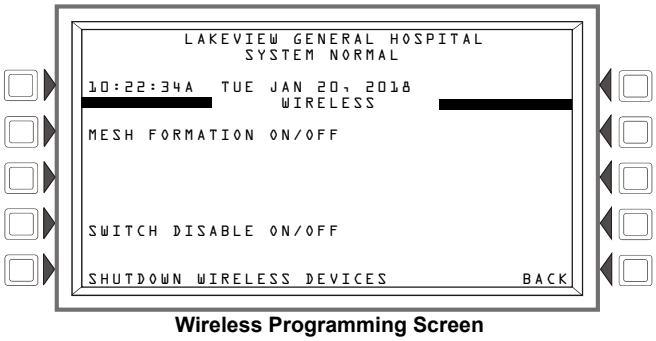
Alter Status Screen (3)

MESH FORMATION: Press to display the Mesh Formation screen.

SWITCH DISABLE: Press to display the Switch Disable screen.

SHUTDOWN WIRELESS DEVICES: Press to display the Shutdown Wireless Devices screen.

NOTE: For additional information on Wireless device setup and programming, refer to the SWIFT Wireless Manual.



Wireless Programming Screen

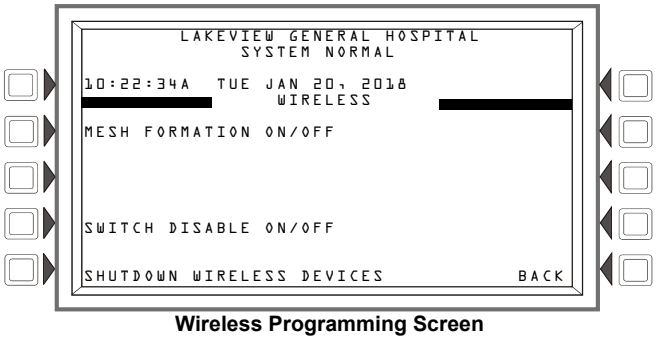
LOOP NUMBER: Press to select the loop to enable or disable wireless mesh formation.

MESH FORMATION: Press to form a wireless communication mesh surrounding the FWSG/A. This is required to establish communication with the wireless devices to the fire panel. Settings are ON and OFF.

The Mesh Formation feature is used during the setup and commission of the wireless network.

If ON: When accepted, a command to start mesh formation is sent to all FWSG/A gateways on the selected loop.

If OFF: When accepted, a command to stop mesh formation is sent to all FWSG/A gateways on the selected loop.



Wireless Programming Screen

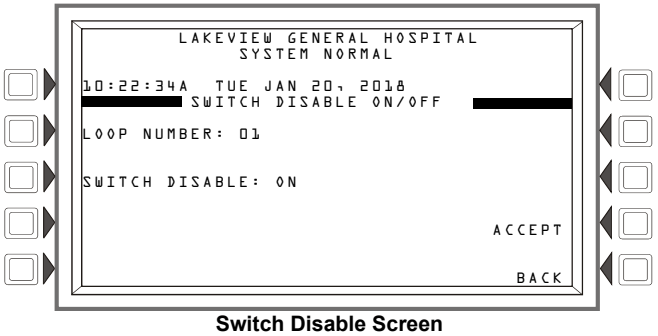
LOOP NUMBER: Press to select the loop to enable or disable magnetic switches.

SWITCH DISABLE: Press to disable the magnetic sensor switches on the FWSG/A. Once disabled, a password is required for access to the FWSG/A using SWIFT Tools. Settings are ON and OFF.

The Switch Disable function is used as a security precaution for the FWSG/A. It does not disable the magnetic switches on the wireless devices that communicate with the FWSG/A.

If ON: The magnetic sensor switches for the FWSG/A are disabled and a password is required to access wireless commands.

If OFF: The magnetic sensor switches for the FWSG/A are enabled and no password is needed to access the wireless commands.

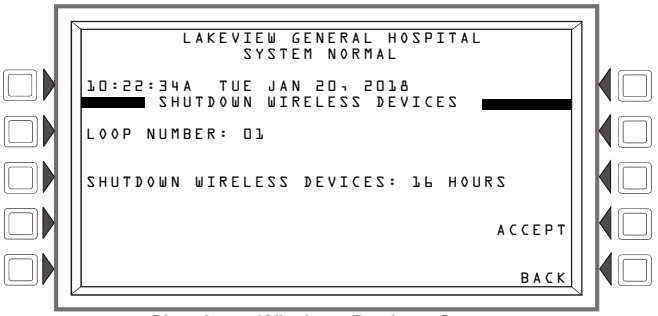


Switch Disable Screen

LOOP NUMBER: Press to select the loop containing the wireless devices that are to be shutdown.

SHUTDOWN WIRELESS DEVICES: Select the duration of time in which the wireless devices on the selected loop will be shutdown. The range is from 30 minutes to 24 hours. The wireless devices on the selected loop will be in shutdown for the duration of the time selected.

When in wireless shutdown, fire protection is compromised. All wireless devices will not communicate with the FWSG/A until the time specified expires.



Shutdown Wireless Devices Screen

4.3.2 Panel Programming

From the Program/Alter Status Menu, select Panel Programming to change panel settings as a whole.

NETWORK PARAMETERS: Displays the Network Programming screen.

NETWORK MAPPING: Displays the Network Mapping menu. (Only available if Network Display Mode is Enabled)

PANEL SETTINGS: Displays the Panel Settings menu.

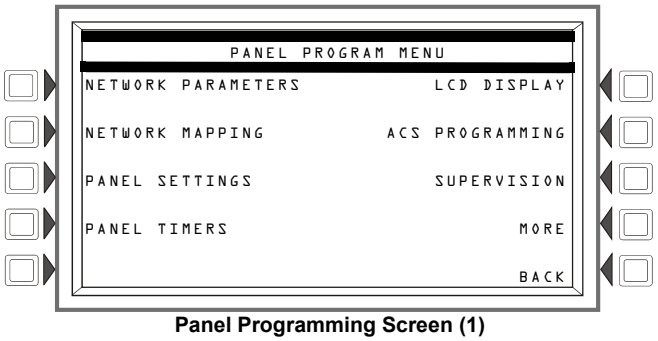
PANEL TIMERS: Displays the Panel Timers menu.

LCD DISPLAY: Displays the LCD Display menu.

ACS PROGRAMMING: Displays the ACS Programming menu.

SUPERVISION: Displays the Supervision menu.

MORE: Displays the second Panel Programming screen.



Panel Programming Screen (1)

PASSWORD CHANGE: Displays the Password Change menu.

WEEKLY OCCUPANCY SCHEDULES: Displays the Weekly Occupancy Schedules menu.

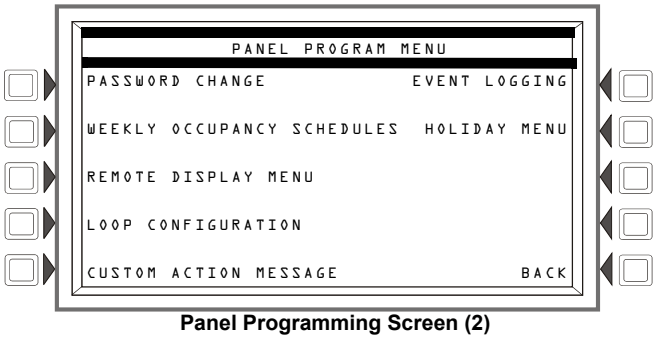
REMOTE DISPLAY MENU: Displays the Remote Display menu.

LOOP CONFIGURATION: Displays the Loop Configuration menu.

CUSTOM ACTION MESSAGE: Displays the Custom Action Message menu.

EVENT LOGGING: Displays the Event Logging menu.

HOLIDAY MENU : Displays the Holiday Menu.



Panel Programming Screen (2)

Network Parameter Programming

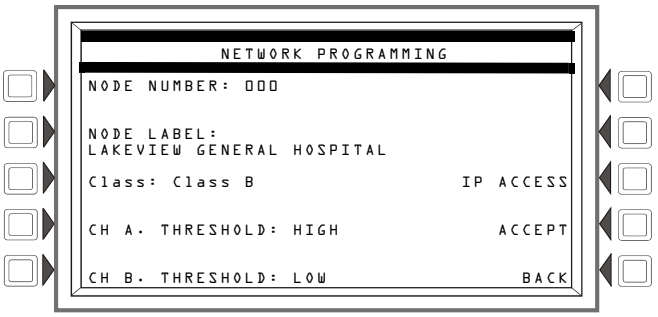
Selecting the Network Parameters option of the Panel Programming screen will display the following network programming options:

NODE NUMBER: Enter the network node number of this panel. For standalone NFS2-3030, the network node number will be 000. Valid network node number range is 1-240. Once the soft key has been pressed, the number may be typed in from the keypad. The network node number may be viewed by pressing the Lamp Test special function key longer than five seconds. Default: 000

NODE LABEL: Enter the network node label for this panel. This is the label that appears in the System Normal message. Default: <blank>

CLASS: Select the wiring Class as B or A, X. Default: Class B

CHANNEL A/CHANNEL B THRESHOLD: Enter high or low, for high or low threshold setting for channel A or B on the network communications module. Default: high

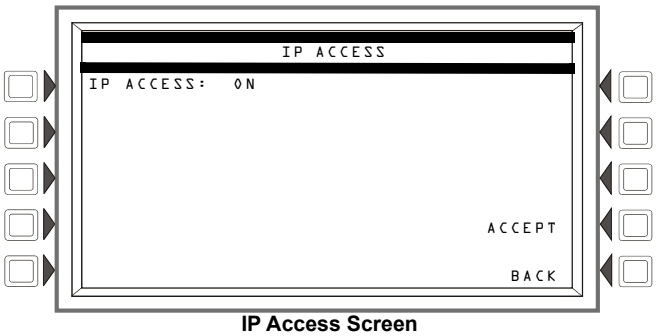


Network Programming Screen

IP ACCESS: Press this soft key to bring up the IP ACCESS screen.

Pressing the IP ACCESS key on the Network Programming screen will display the IP Access screen. Enabling IP Access allows downloads over a local area network (LAN) or the Internet (WAN - Wide Area Network) using VeriFire Tools through the Noti•Fire•Net Web Server (NWS), or a wide-area enabled NCS through a PC version of Noti•Fire•Net Gateway. Always verify system operation after programming changes are made in this manner.

IP ACCESS: Scroll through the choices. Press ACCEPT at the desired setting. Settings are:
ON- IP commands, downloads and programming are allowed.
OFF - IP commands, downloads and programming are NOT allowed. (default)
TIMED - IP commands, downloads and programming are allowed for a two-hour period, after which the setting will revert to OFF



IP Access Screen

Network Mapping

Network Mapping is only available when Network Display Mode is enabled in the Panel Settings Menu. (Refer to *"Network Display Mode" on page 64*.) Selecting the Network Mapping option of the Panel Programming screen will display the Network Mapping screen.

There are 15 screens covering Nodes 1 - 240. The NFS2-3030 can be programmed to monitor events and initiate drill (alarm signal on for Canadian applications) on one (1) additional fire panel and up to four (4) DVCs.
The UP/DOWN arrow keys on the fire panel are used to select which node to edit. The NEXT/PREVIOUS SELECTION keys will toggle it between ONLINE/OFFLINE and MAPPED/UPMAPPED.

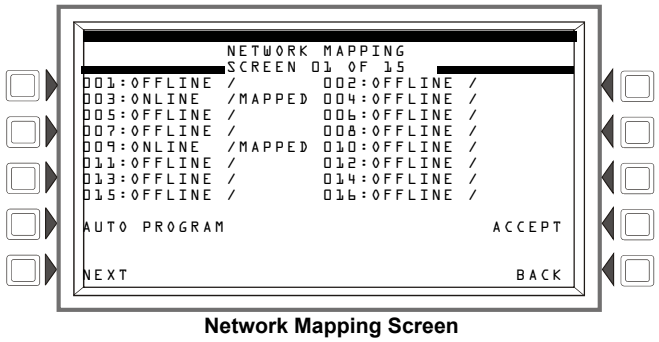
OFFLINE: The node is not communicating with the network.

ONLINE: The node is communicating with the network.

mapped: Events are annunciated by the NFS2-3030

UNMAPPED (blank): Events are ignored by the NFS2-3030

NOTE: A network mapped node will automatically be MN Mapped for Mass Notification applications.



Network Mapping Screen

AUTOPROGRAM: Consults the internal map of which nodes are on the network and automatically set all 240 Nodes according to the map, regardless of which screen is being shown. The results will not be saved to flash until the ACCEPT key is pressed.

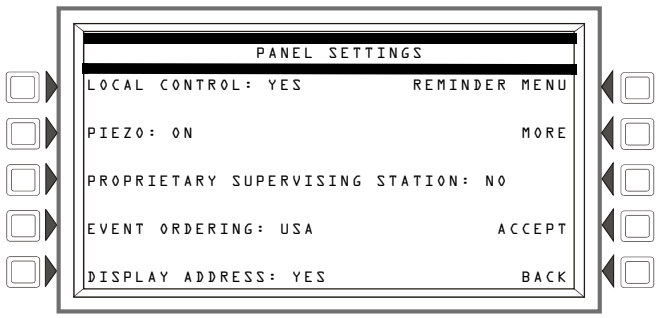
NEXT/BACK: Navigates to the next or previous screen. The last screen will not have a NEXT option. Pressing BACK on the first screen will return the programmer to the Panel Programming Screen.

Panel Settings

Selecting the Panel Settings option of the Panel Programming screen will display the following panel options:

LOCAL CONTROL: Toggle between YES and NO. This option disables (NO) or enables (YES) local panel control of the Signal Silence, System Reset, and Drill (Alarm Signal On for Canadian applications) Fixed Function keys, as well as SIGNAL SILENCE, SYSTEM RESET, and ACKNOWLEDGE soft keys. A setting of NO (disable) turns the panel piezo sounder off, overriding the next field if PIEZO is set to ON. Default: YES

NOTE: A setting of NO will disable keyswitch operation.
ACS devices programmed for Acknowledge, Signal Silence, System reset and Drill/Alarm Signal On will still function regardless of the Local Mode setting.
If an LCD-160/C is connected to the NFS2-3030 and DCC is enabled, local control should be disabled.



Panel Settings Screen (1)

PIEZO: Toggle between OFF and ON. This option enables (ON) or disables (OFF) the panel piezo from sounding when alarms or troubles occur. A setting of ON is overridden if LOCAL CONTROL is set to NO. Default: NO

PROPRIETARY SUPERVISING STATION: Press to enable (YES) or disable (NO) Local Receive mode. When enabled, events and the clearing of events must be handled one at a time: each must be acknowledged. Latching events require a system reset. The panel will override a setting of YES if the Node Number is greater than zero. Default: NO

NOTE: Proprietary Station does not support standalone mode (direct connect) with a Digital Voice Command.

EVENT ORDERING: Toggle between USA and CANADA ordering priorities. This order is applied to events shown in the Multiple Events List screen. Default: USA

NOTE: Fire/MNS priority dependent on fire panel programming. Refer to Panel Settings on page 32.

DISPLAY ADDRESS: Toggle between YES and NO. Choose YES to display all point address information at the top of event screens and in printouts. Choose NO to suppress address information display and printing. Default: YES

REMINDER MENU: Press to display the Reminder Menu Screen. Refer to page 34.

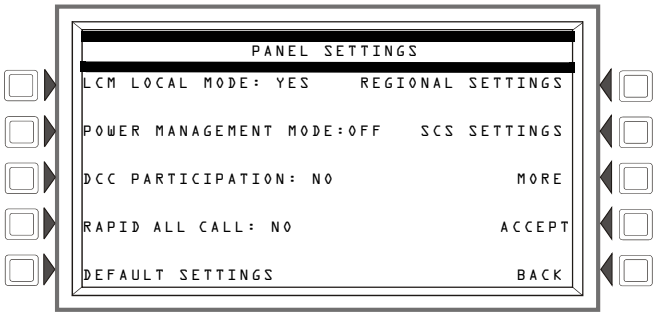
MORE: Press to display the second Panel Settings screen.

LCM LOCAL MODE: Toggle between YES and NO. YES to enable all SLCs to participate in local mode. When enabled, all LCMs will operate together in a limited fashion when communication is lost with the NFS2-3030 CPU. Inputs on LCM loops (and associated LEM loops, if installed) will activate outputs on all loops:

- for those inputs and outputs that have been set with point programming to participate in local mode, and
- when type codes are the same point type: that is, an input with a fire type code will activate an output with a fire type code. (Refer to "Point Programming" on page 43 for point types.)

Default: NO

With Fire as the highest priority:		With MNS as the highest priority:	
USA Event Order	**Canada Event Order**	**USA Event Order**	**Canada Event Order**
Fire	Fire	MN Alarm	
MN Alarm		Fire	Fire
CO Alarm	CO Alarm	CO Alarm	CO Alarm
CO Pre-alarm	CO Pre-alarm	CO Pre-alarm	CO Pre-alarm
Security	—	Security	—
Supervisory	Supervisory	MN Supervisory	
MN Supervisory		Supervisory	Supervisory
Trouble	Trouble	MN Trouble	
MN Trouble		Trouble	Trouble
Pre-alarm	Pre-alarm	Pre-alarm	Pre-alarm
Disabled	Disabled	Disabled	Disabled



Panel Settings Screen (2)

POWER MANAGEMENT MODE: Select ON to invoke the power management mode to conserve power consumption. In this mode, the number of LEDs that can be activated on a particular loop will be limited. A maximum of 30 input device (monitor modules and detectors) LEDs will be allowed on at a time. No output module LEDs will turn on. When the limit of 30 LEDs is reached, every time a new LED is turned on, the oldest LED activation will turn off and will poll in red rather than the usual green. Default: OFF

DCC PARTICIPATION: Press to program the panel for DCC (Display and Control Center) participation. This network function ensures that one location at a time is in command of the Acknowledge, System Reset, Signal Silence and Drill (Alarm Signal On for Canadian applications) functions. Default: NO

NOTE: For fire applications, DCC participation should be enabled for all locations that can participate in DCC. For mass notification applications, DCC participation should be disabled. When the panel is in Network Display Mode and used as part of an ACU, LOC, or CCS. the DVC associated with the fire panel should have Mass Notification Control Settings selected and the node of the fire panel selected. In the event of a mass notification page, the fire panel associated with the DVC that initiated the page will assume control of the network until the mass notification page is complete. Each fire panel will assume local control until a mass notification event occurs.

Program Setting for:	Default:
Local Control	YES
Piezo	ON
Proprietary Supervising Station	NO
Event Ordering	USA
Display Address	YES
LCM Local Mode	NO
DCC Participation	NO
Power Management	OFF
Rapid All Call	NO

Default Settings

RAPID ALL CALL: Set YES to invoke Rapid All Call for XP Series transponder modules. Used when retrofitting an AM-2020/AFP-1010 system that has XPP modules used for audio operation. This setting causes these modules to activate more quickly. Rapid All Call is used with the "Speaker" type code. Default: NO

DEFAULT SETTINGS: Press to activate default settings.

REGIONAL SETTINGS: Press to proceed to the Regional Settings screen.

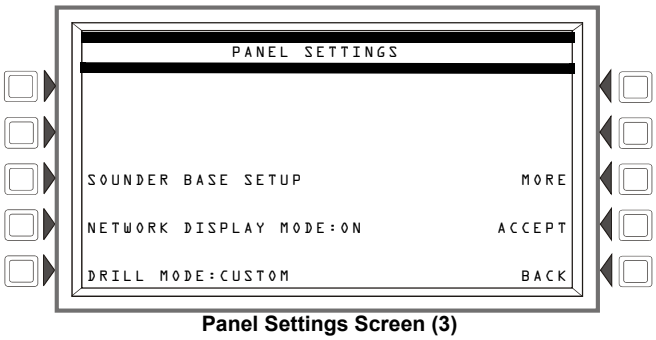
SCS SETTINGS: Press to proceed to the SCS Settings screen.

MORE: Press to display the third Panel Settings screen.

SOUNDER BASE SETUP: Press to proceed to the SOUNDER BASE SETUP screen. Refer to page 35.

NETWORK DISPLAY MODE: Press this softkey to enable Network Display Mode for the fire panel. Network Display Mode allows the NFS2-3030 to display network events for up to five mapped network nodes. Refer to "Network Display Mode" on page 64.

DRILL MODE (ALARM SIGNAL ON MODE for Canadian Applications): Press to select between the STANDARD and CUSTOM alarm signal on mode options. Custom drill/alarm signal on mode can be used to activate specific output devices when a drill/alarm signal on occurs. When using Custom drill/alarm signal on mode, Special Function Zone 16 must be programmed into the zone mapping of the devices to be activated during a drill/alarm signal on. Refer to "Zones" on page 63.



Panel Settings Screen (3)

MORE: Press to display the fourth Panel Settings screen.

SILENCEABLE WATERFLOW: Toggle between YES and NO.

If NO: Incoming Waterflow events will not be allowed to be silenced. If YES: Incoming Waterflow events can be silenced. Default: No

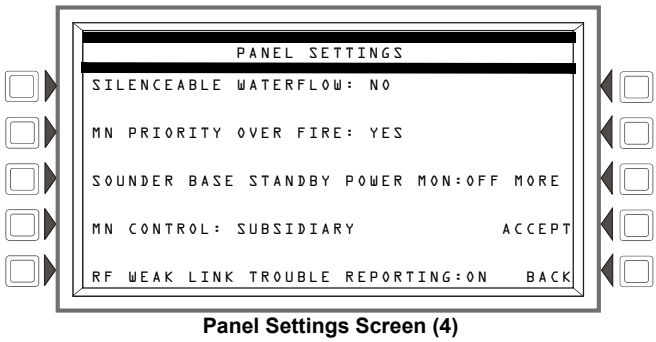
MN PRIORITY OVER FIRE: Toggle between YES, NO, and MN NOT USED.

If NO: Fire events have a higher priority over mass notification events. If an existing fire condition is present on the fire panel, fire activations will not be suppressed if a mass notification alarm is activated.

If YES: Mass notification events have priority over fire alarms. If an existing fire event exists on the panel, silenceable outputs will be turned off.

If MN NOT USED: Mass notification is not used and the panel is used for fire detection only.

Default: MN NOT USED



Panel Settings Screen (4)

SOUNDER BASE STANDBY POWER MONITORING: Toggle between OFF and ON.

If OFF: External power on the sounder base will not be monitored when in standby. If ON: External power on the sounder base will be monitored when in standby. Default: OFF

MN CONTROL: Toggle between SUBSIDIARY, ACU, LOC, and CSS. This option should remain subsidiary if the NFS2-3030 is not in Network Control Mode.

If SUBSIDIARY: Select SUBSIDIARY if the NFS2-3030 does not have an associated DVC set as an ACU, LOC, or CSS.

If ACU, LOC, or CSS: Select ACU, LOC, or CSS to match the configuration programming of an associated DVC used for Mass Notification.

Default: SUBSIDIARY

RF WEAK LINK TROUBLE REPORTING: Toggle between ON and OFF. The NFS2-3030 will report a weak signal indication between wireless devices. If OFF: The NFS2-3030 does not report a weak signal indication between wireless devices. Default: ON

MORE: Press to display the fifth Panel Settings screen.

FIRE/CO (PHOTO SUP) LATCHING: Only applies to Fire/Co detectors programmed as PSUP: Toggle between YES and NO. This option will allow the photo element of any PSUP detectors on the fire panel to be latching or tracking. If NO: The photo element of all PSUP detectors will be tracking.

If YES: The photo element of all PSUP detectors will be latching.

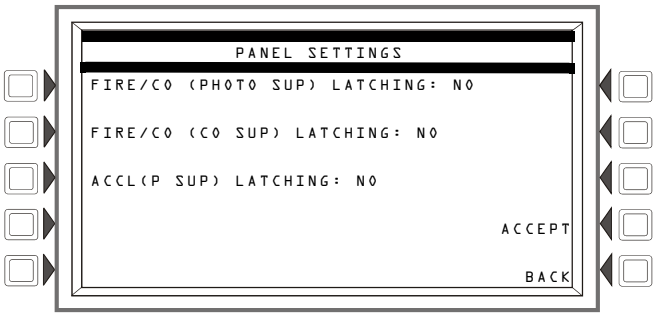
Default: NO

FIRE/CO (CO SUP) LATCHING: Only applies to Fire/CO detectors programmed as CSUP: Toggle between YES and NO. This option will allow the CO element of any CSUP detectors on the fire panel to be latching or tracking.

If NO: The CO element of all CSUP detectors will be tracking.

If YES: The CO element of all CSUP detectors will be latching.

Default: NO



Panel Settings Screen (5)

ACCL(P SUP) LATCHING: Only applies to Acclimate Photo Supervisory detectors (PSUP): Toggle between YES and NO. This option will allow the photo element of any Acclimate PSUP detectors on the fire panel to be latching or tracking.

If NO: The photo element of all Acclimate PSUP detectors will be tracking.

If YES: The photo element of all Acclimate PSUP detectors will be latching.

Default: NO

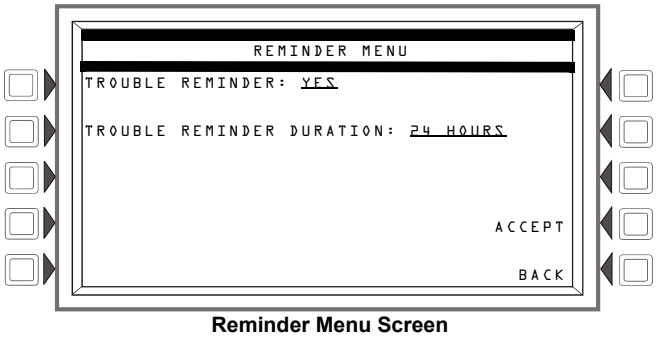
Press the Reminder Menu key on the first Panel Settings screen to display the Reminder Menu screen.

TROUBLE REMINDER: Toggle between YES and NO.

Choose YES to initiate a daily 11:00AM reminder that there are uncleared troubles in the system. This reminder will appear on the screen and will sound a piezo, if enabled. Choose NO if no reminder is desired. Default: YES

TROUBLE REMINDER DURATION: If Trouble Reminder is enabled: Toggle between 4 HOURS and 24 HOURS to select the duration of time between trouble reminders.

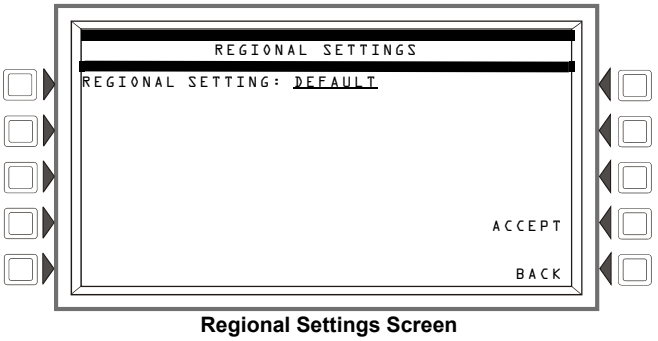
Choose 4 HOURS to initiate a trouble reminder every 4 hours until all troubles are clear. This option should be selected if the fire panel is connected to a wireless network via the FWSG/A. Choose 24 HOURS to initiate a trouble reminder every 24 hours until all troubles are clear. Default is 24 HOURS.



Reminder Menu Screen

Press the Regional Settings softkey on the second Panel Settings screen to display the Regional Settings screen:

REGIONAL SETTINGS: Press the soft key to scroll through the selections. Choices are CHICAGO, SINGAPORE, AUSTRALIA, CHINA, CANADA, KOREA or DEFAULT. The default is that there are no special regional settings.



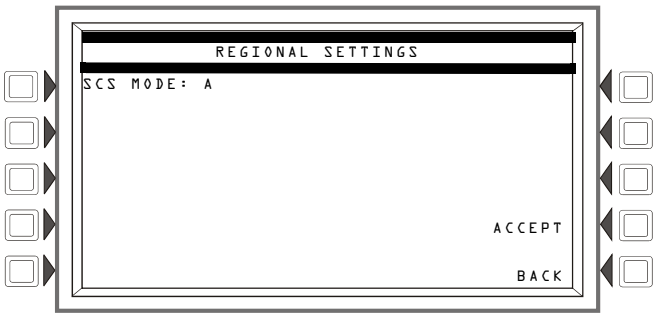
Regional Settings Screen

Press the SCS Settings softkey on the second Panel Settings screen to display the SCS Settings screen:

SCS MODE: Press to select mode A or mode B for SCS applications. Default: A

NOTE: For use with local SCS installations. Refer to the *Smoke and HVAC Control Station SCS Series Manual* for additional information.

Press the Sounder Base Setup key on the third Panel Settings screen to display the Sounder Base Setup screen.



SCS Settings Screen

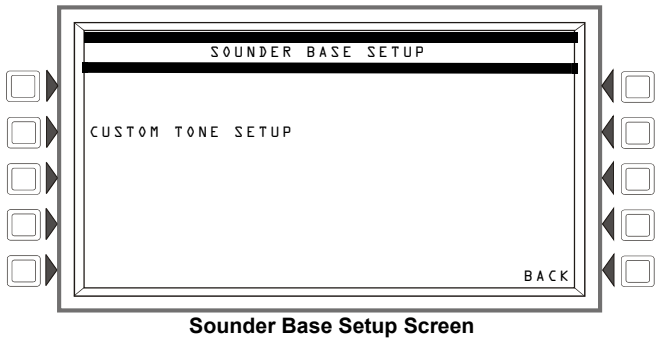
CUSTOM TONE SETUP: Press to proceed to the Custom Tone Setup screen.

PULSE ON TIME: The Pulse On time is the amount of time that the tone will be ON within a Period. Press this softkey to enter the amount of time in second and fraction of a second increments.

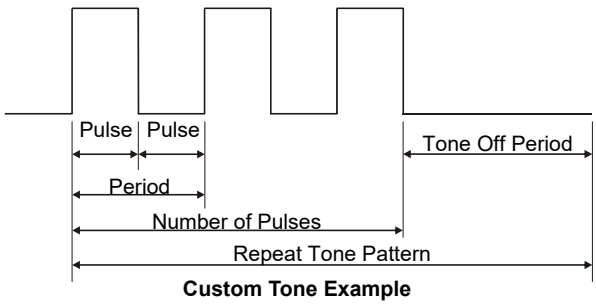
PERIOD: A Period is the length of time designated for a pulse, including Pulse On time and Pulse Off time. The pulse off time is designated by the amount of time left in a Period after the Pulse On time has expired. Press this softkey to enter the amount of time in second and fraction of a second increments.

NUMBER OF PULSES: Press this softkey to enter the number of pulses that will occur before the Tone Off Period.

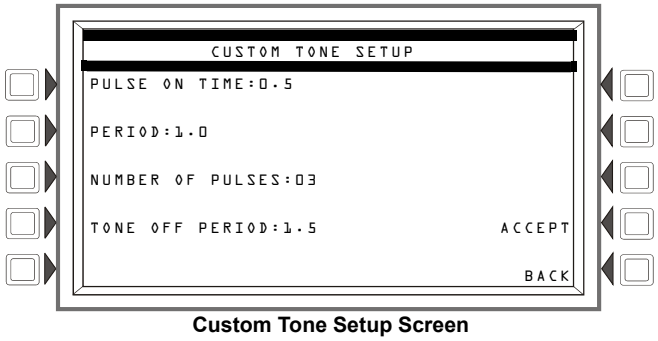
TONE OFF PERIOD: The Tone Off Period is the amount of time that the tone will be silent before running the pulse pattern again. Press this softkey to enter the amount of time in seconds and fraction of a second increments.



Sounder Base Setup Screen



Custom Tone Example



Custom Tone Setup Screen

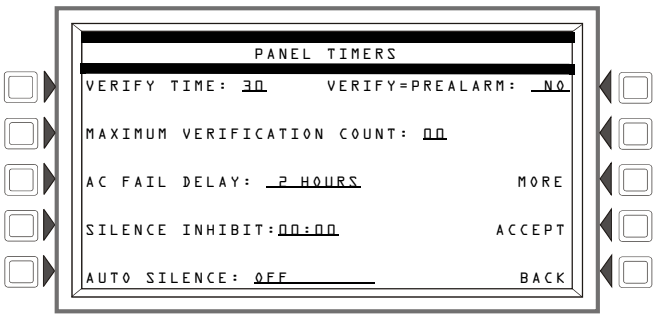
Panel Timers Programming

Selecting the Panel Timers option on the first Panel Programming screen will display the following panel timer options:

VERIFY TIME: Press to set the Alarm Verification timer. Type in a value of 0-240 (seconds), which will delay initiating devices set for Alarm Verification from signaling for the amount of time entered. If a second alarm occurs while the alarm verification timer is counting, the timer will stop and the alarm will signal immediately. Default: 30 seconds

NOTE: AHJ approval is required if this value exceeds 60 seconds. This value cannot exceed 30 seconds for ULC applications.

MAXIMUM VERIFICATION COUNT: Press and enter a value from 0-20 for a maximum verification count threshold value that applies to detectors set to participate in Alarm Verification. A value of zero produces no verification trouble. When the counter exceeds the threshold value entered, a trouble is generated to the panel. Default: 20



Panel Timers Screen (1)

AC FAIL DELAY: Press to set the timing for the time delay from AC failure to when the trouble is reported. Type in a value of 1-12 (hours), or select NONE. A value of NONE will cause immediate notification. Default: 8

NOTES: AC FAIL DELAY settings other than 1-3 hours for off-premises notification require the approval of the local Authority Having Jurisdiction.
The onboard trouble relay (TB3 on the CPU2-3030(CPU2-3030DC for Canada only) will activate and TM-4s will report according to this setting.
UDACTs and UDACT-2s are notified immediately of AC failure by the panel, regardless of the panel's delay setting. Once the UDACT or UDACT-2 receives notification, it operates according to its own programmed AC Fail Delay reporting schedule.
The AMPS-24, ACPS-610, and ACPS-2406 power supplies must be set to an AC FAIL DELAY value of 0 (zero) when used with this panel.

Example: AC Failure occurs at 1:00 p.m. on a panel with an AC FAIL DELAY setting of 8 hours. The UDACT/UDACT-2 is set for notification after 6 hours.

Time	Event
1:00 p.m.	AC Failure. Panel notifies UDACT/UDACT-2. Panel and UDACT/UDACT-2 timers begin countdown to report time.
7:00 p.m.	UDACT/UDACT-2 reports
9:00 p.m.	TM-4 reports, TB3 trouble relay activates

AC Fail Delay Example

SILENCE INHIBIT: Press to enter a value from 0 (disabled) to 5 minutes. This software timer disables the signal silence key function for the time entered when a fire alarm occurs. The timer starts at the first alarm only; it does not restart with each new alarm. Default: 0

AUTO SILENCE: Press to enter a value of OFF (no Auto Silence Timer), or a value of 10, 15, or 20 minutes. This global software timer functions like pressing the Signal Silence key. For example, if a value of 10 is entered, the control panel will silence all active outputs programmed as silenceable after ten minutes. When Auto Silence activates, special function zone ZF40 will activate and will remain active until a system reset, alarm resound, or drill (alarm signal on for Canadian applications) is initiated. Default: OFF

NOTE: The value must be 20 minutes for ULC installations.

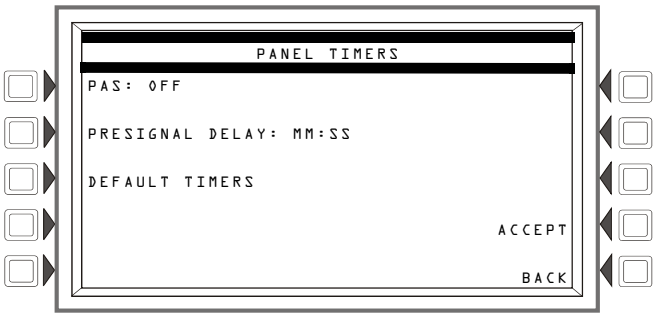
VERIFY=PREALARM: Press to enter YES or NO for displaying Prealarm during alarm verification. Default: NO

MORE: Press to proceed to the second Panel Timers screen.

PAS: Press to toggle between the choices of OFF or ON for PAS (Positive Alarm Sequence).

PRESIGNAL DELAY: Press to enter a value of 00:00 (OFF) or a value of 1:00 to 3:00 minutes (in the format MM:SS, where MM= minutes, SS=seconds). This feature initially causes alarm signals to sound only in specific areas, monitored by qualified personnel. This allows delay of the alarm for up to 3 minutes after the start of alarm processing. Default: 3:00

DEFAULT TIMERS: Press to activate default settings for the Panel Timers.



Panel Timers Screen (2)

Program Setting for:	Default:
Verify Time	30 seconds
Max. Verify	20
AC Fail Delay	8 hours
Silence Inhibit	0 (disabled)
Auto Silence	Off
Verify=Prealarm	No
PAS	OFF
Presignal Delay	3 minutes

Default Settings

LCD Programming

Selecting the LCD Display option on the first Panel Programming screen will display the following LCD Display options:

BRIGHTER: Press to increase contrast on the display. The intensity will increase by approximately 5% with each press of the key.

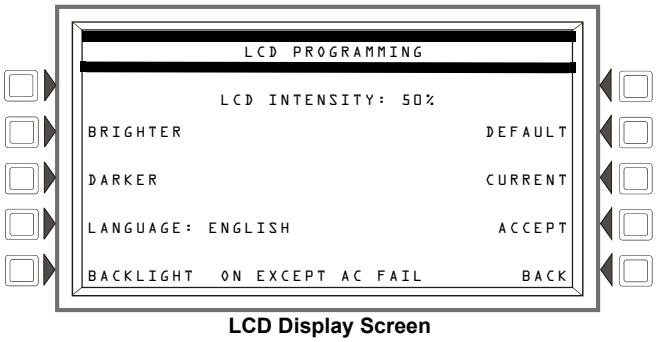
DARKER: Press to decrease contrast on the display. The intensity will decrease by approximately 5% with each press of the key.

LANGUAGE: Press this soft key to choose the language that will display on the LCD. (i.e. ENGLISH, HEBREW, PORTUGUESE, SPANISH, etc.)

BACKLIGHT: Press this soft key to select one of the following backlighting options: ON EXCEPT AC FAIL, OFF, or ON. When On Except AC Fail is selected, the backlight will turn off when the power supply experiences AC failure. Default: On

DEFAULT: Press to set the factory default setting (40%).

CURRENT: Press to select the intensity that was in effect when the screen was accessed.



LCD Display Screen

ACS Programming

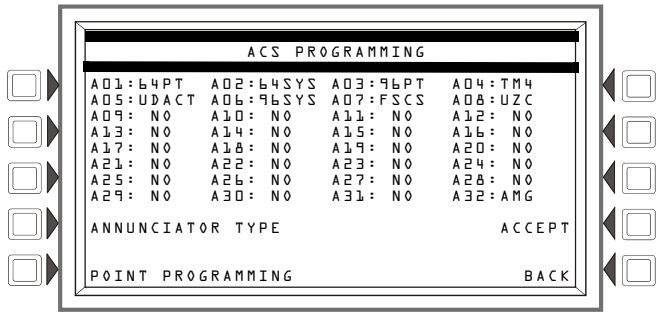
Selecting the ACS Programming option on the first Panel Programming screen will display the following ACS programming options:

Consider the following when programming ACS devices:

- The NFS2-3030 ACS circuit can accommodate up to 32 annunciator devices, or if expanders are used, a total of 3,072 annunciator points.
- Smoke Control devices must be set as FSCS or HVAC annunciator types. In addition to its 64 smoke control points, when an SCS device is operating in FSCS (Firefighters Smoke Control Station) mode, there are 32 additional points which function as alarm points. They can be mapped to a zone or point to send the SCS device into a fire alarm state when any of the additional 32 points is activated. Any of the 32 alarm points that are used must be set to MONITOR mode from the panel. Any of these points that are not used can be set to NONE. Refer to the SCS manual for further information on Smoke Control devices.
- UDACT/UDACT-2 and TM-4 communicators, and the UZC Zone Coder are installed on the same EIA-485 ACS circuit as annunciators, and are included with annunciator programming.
- The TM-4 occupies one of the 32 annunciator addresses
- The UDACT or UDACT-2 can occupy one or more annunciator addresses.
- The UZC can occupy up to four annunciator addresses 64 points each.
- When the UDACT/UDACT-2 or UZC expand beyond one annunciator address, 64PT should be used for the subsequent address types, and the annunciator addresses should be sequential. Other than address assignment, there is no ACS point programming for these devices.

ANNUNCIATOR TYPE: Move the cursor to the desired annunciator address and press this key to scroll through the available annunciator types.

POINT PROGRAMMING: Press to proceed to the ACS Point Programming screen.



ACS Programming Screen

Type	Used for
64PT	64 point annunciation
64SYS	64 point annunciation, with first 8 points reserved
64SVC[1]	64-point service mode for Two Level Bypass
96PT	96 point annunciation
96SYS	96 point annunciation, with first 8 points reserved
96SVC[1]	96-point service mode for Two Level Bypass
96DCC	96 point annunciation to be used with multiple Command Centers
UDACT	UDACT or UDACT-2, first address. Any additional UDACT or UDACT-2 annunciator addresses should be programmed as 64PT and be sequential.
TM4	TM-4
AMG[2]	AMG
FSCS	Smoke control modules set for FSCS mode
HVAC	Smoke control modules set for HVAC mode
UZC	Universal Zone Coder, first address. Any additional UZC annunciator addresses should be programmed as 64PT and be sequential.

1 **Two Level Bypass:** When an ACS board is programmed as a 64SVC or 96SVC type, the operator must enter the Program/Alter Status mode of operation before pressing any push buttons to control points on these boards. If a push button is pressed while not in the Program/Alter Status screen, and no unacknowledged events exist, the password screen will automatically be displayed so the operator can enter the Program/Alter Status mode.

2 **AMG Addressing:** When using an AMG, the address it occupies (an address of 25 through 32, typically address 32) must be set to annunciator type AMG, and address one must be set to annunciator type 64PT.

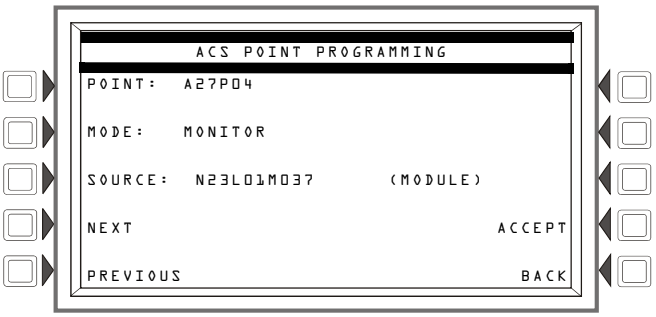
POINT: Press this soft key to enter the ACS point number. The format is Axx-Pyy, where A is the two-digit device address, P is the two-digit point number. Enter a leading zero for one-digit numbers.

MODE: Press this soft key to enter the ACS mapping mode. Refer to Table 3 below.

SOURCE: Press to select the source field and also toggle between display formats if a point value is allowed. Enter a point or zone, or the panel's node number if the mode type is a system function such as acknowledge or reset.

Up to eight sources are allowed when CONTROL mode is chosen.

- For ALL CALL, PAGE INACTIVE, PAGE EVAC, and PAGE ALERT, enter the node number of the DVC where the source is connected.
- For TELEPHONE mode, enter the address of the telephone module point using the format NxxXLyyMzzz. Use the format NxxxAyyT (where xxx=the node number and yy = the digital audio amplifier address) for FFTs on risers that have no FTM-1 modules installed.



ACS Point Programming Screen

FFT-NFN mode sources:

format Nxxx,Nxxx,NxxxLyyMzzz: Telephone control module (NxxxLyyMzzz) preceded by the node numbers of the two DVCs (Nxxx,Nxxx) that will communicate over the FFT-NFN link.

format Nxxx, Nxxx: numbers of the two DVCs that will communicate over the FFT-NFN link.

format NxxxAyyT: Use this address (N = the DVC node number and A = the DAL device address on the digital audio loop) when no telephone control modules are installed on a DAL device's FFT riser.

ACS Point Mode	Function: The point…	Explanation
NONE	… is not programmed.	No messages are sent from or received at this point. LEDs at this point do not light.
CONTROL	… will change the state of up to eight control modules OR (for NFS2-3030 only) up to eight general zones to off or on when its button is pushed. Selecting this point mode will bring up the Control Point Select screen (refer to page 39).	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
MONITOR	… will show the current status of a specified point or zone.	The Point Active LED is lit if the corresponding mapped point or zone is active. The Status (trouble) LED is on if that point or zone is in trouble. If the point has a button, it has no effect when pushed.
TELEPHONE	… supports telephone functionality when mapped to a telephone point. Press the button to connect the mapped point with the telephone station.	Both the Point Active LED and the Status (trouble) LED will flash if a telephone has been placed in the jack at the mapped telephone point. Otherwise, the Point Active LED is lit if the corresponding point or zone is active. The Status (trouble) LED is lit if that point or zone is in trouble.
DISABLE	… will change the state of a point, zone, or DAL device speaker circuit(s) specified through mapping from enabled to disabled, or from disabled to enabled, when its button is pushed. See Caution below this table.	The Point Active LED is lit if the corresponding mapped point or zone is active. The Status (trouble) LED is lit only if that point or zone is disabled.
ACKNOWLEDGE	… will act like an Acknowledge soft key or button on the panel, acknowledging an event when its button is pushed.	The Point Active LED is lit when there are any fire alarms in the system. The Status (trouble) LED is lit when there are troubles in the system.
SILENCE	… will act like the Signal Silence button on the panel, silencing all silenceable outputs when its button is pushed.	The Point Active LED is lit if all silenceable outputs have been silenced. The Status (trouble) LED is lit if not all silenceable outputs have been silenced after the button is pushed.
RESET	… will act like the System Reset button on the panel, resetting the panel when its button is pushed.	No LED will ever light at this point.
DRILL	… will act like the Drill button on the panel, initiating a fire drill when its button is pushed. Note: Not for use in Canadian Applications	The Point Active LED lights when the button is pushed and the system has entered the drill state. The Status (trouble) LED will never light.
ENABLE PAGING FROM ___	...will cause the associated input to become an active audio source on Noti•Fire•Net. The user may then choose to activate specific PAM points on remote Digital Voice Commands to use this network input, or to perform a paging function such as ALL CALL from this input.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
ALL CALL	This point will activate ALL CALL. (Speaker Circuits will turn on according to programming) to a DVC only. Mapping *must* be to a DVC node. If an AMG is connected to this panel, ALL CALL can be activated ONLY by the ALL CALL switch on the AMG. Do not program any other annunciators for ALL CALL.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.

Table 3 ACS Point Mapping: Explanation of Point Modes (1 of 2)

ACS Point Mode	Function: The point…	Explanation
PAGE INACTIVE	...will, when pressed after a Page Enable, allow PAGE INACTIVE paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
PAGE EVAC	...will, when pressed after a Page Enable, allow Page Evac paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
PAGE ALERT	...will, when pressed after a Page Enable, allow Page Alert paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
FFT-NFN	....will, when pressed: • Notify a DVC in the map format Nxxx,Nxxx,NxxxLyyMzzz or Nxxx,Nxxx,NxxxAyyT to open the FFT-NFN link and turn on the mapped FFT point or riser. A second press will notify the DVC to turn off that FFT point or riser and determine whether the FFT-NFN link should be closed or remain open. • Notify a DVC in the map format Nxxx,Nxxx to close or open the FFT-NFN link between two DVCs.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point or zone is in trouble.
CO MONITOR	… will show the current state of the CO element for the specified point entered.	The Point Active LED is lit if a corresponding mapped point is active. The Status (trouble) LED is on when a point is in trouble. This point is specifically used to annunciate the CO element of the FIRE/CO detector.

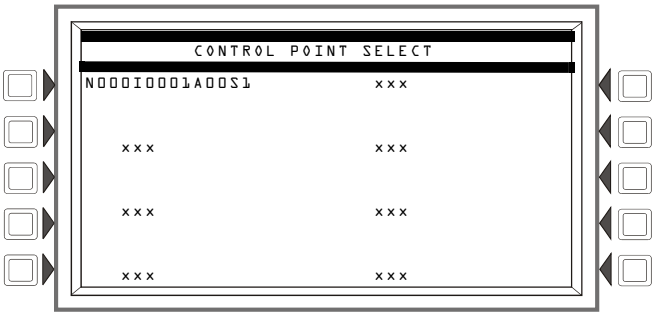
Table 3 ACS Point Mapping: Explanation of Point Modes (2 of 2)

CAUTION: DISABLED/ENABLED OUTPUTS
WHEN A DISABLED OUTPUT IS ENABLED, IT WILL BE AFFECTED BY CONDITIONS PRE-EXISTING IN THE SYSTEM. FOR EXAMPLE, WHEN A CONDITION EXISTS IN THE SYSTEM THAT WOULD NORMALLY TURN THE OUTPUT ON, THE OUTPUT WILL TURN ON WHEN IT IS ENABLED.

When programming an ACS point with a mode of Control, the following Control Point Select screen will be displayed:

Control Source field entry formats may be:

- SLC Modules: NxxxLyyMzzz.
  xxx = FACP node number
  yy - the SLC loop number
  zzz - module loop address
- General Zones*: NxxxZyyy.
  xxx = FACP node number
  yyy = General zone number (Z001 - Z999, not Z000. Zone 0 is not valid).
- Panel Circuit Modules: NxxxPyy.z.
  xxx = FACP node number
  yy = panel circuit module number
  z = panel circuit push button number
- Prioritized Audio Matrix (PAM) Speaker Points: NxxxIyyyyAzzSn xxx = the DVC node number
  yyyy = the input number in the PAM
  zz = the DAA address on the Digital Audio Loop (01 through 32)
  n = the DAA speaker circuit (1 through 4).



Control Point Select Screen

NOTE: A zone with a node number of zero (0) will be a local zone.

*DO NOT MIX GENERAL ZONES WITH OTHER SOURCE TYPES FOR AN ACS CONTROL POINT. Program up to eight general zones or up to eight other control point types.

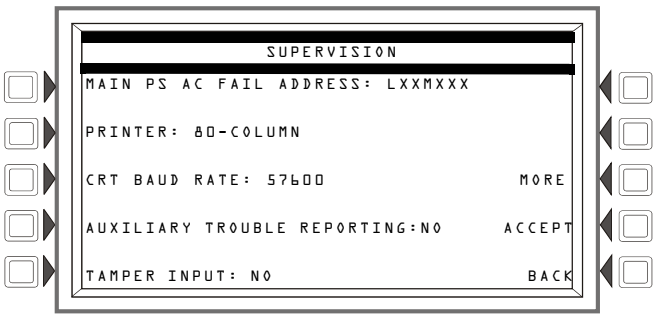
Supervision

Selecting the Supervision option on the first Panel Programming screen will display the following programming options:

MAIN POWER SUPPLY AC FAIL ADDRESS: Press to enter the "Monitor AC Fail" (base plus one) address of the main power supply. Refer to the main power supply manual for complete addressing information. The LCD backlight will turn off when this power supply experiences AC failure (see BACKLIGHT in, "LCD Programming" on page 37).

PRINTER: Press to scroll through the types of printer supervision: NONE, 40-COLUMN, 40-COLUMN SUPERVISED, 80-COLUMN, 80-COLUMN SUPERVISED, 40 GRAPHIC, 80 GRAPHIC, 80 GRAPHIC SUPERVISED. The printer will not be active if NONE is selected. If a SUPERVISED selection is made, the printer will be supervised. Default: None.

NOTE: When changing from an 80-column or 80-column supervised to an 80 graphic or 80 graphic supervised printer (or vice-versa), settings must be changed at the printer.



Supervision Screen (1)

CRT BAUD RATE: Press to scroll through CRT baud rates. "SUP" after the rate indicates supervised. Select from: 4800, 4800 SUP, 9600, 9600 SUP, 19200, 19200 SUP, 38400, 38400 SUP, 57600, 57600 SUP. Default: None.

NOTE: When LCD-80 Terminal Supervision is on (LCD-80 is selected at the More Supervision screen), CRT baud rate selections of 19200 and 57600 are unavailable.

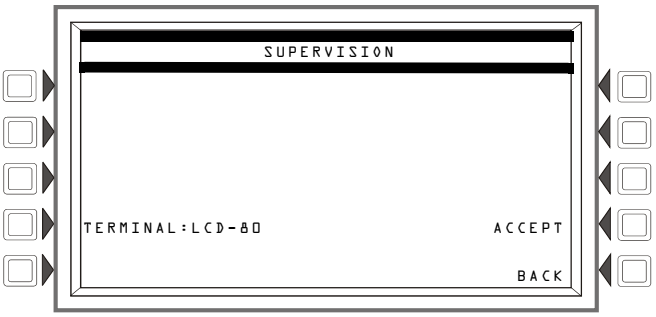
AUXILIARY TROUBLE REPORTING: Toggle between YES and NO. Choose Yes if a trouble bus cable has been attached at J5 of the CPU2-3030 (CPU2-3030DC for Canada only) . Default: NO

TAMPER INPUT: Toggle between YES, NO, and AKS-1. Choosing Yes reports a tamper situation at the panel cabinet door determined by an STS-1 tamper switch connected. Choosing No does not report a tamper situation at the panel cabinet door determined by an STS-1 tamper switch connected. AKS-1 should be selected when there is an AKS-1 key switch connected to the panel cabinet door (which allows the operator to use Signal Silence, Reset, Drill (Alarm Signal on for Canadian applications) and Acknowledge functions when a key turns the lock to "Enable"). Default: NO

MORE: Press to display the second Supervision screen.

TERMINAL: Select NONE or LCD-80. (Default: None.) When LCD-80 is selected, LCD-160/C programming is not allowed.

NOTE: When LCD-80 Terminal Supervision is enabled, CRT baud rate selections of 19200 and 57600 are unavailable.



Supervision Screen (2)

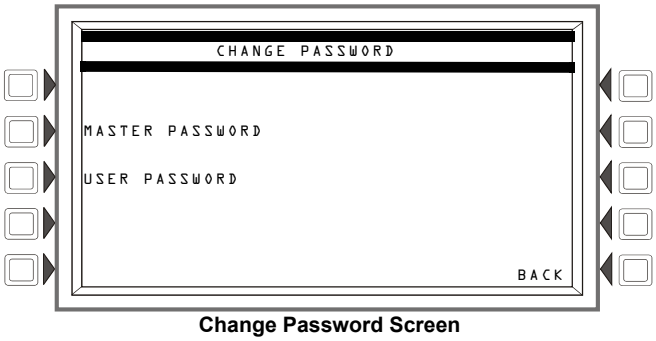
Password Change

Selecting the Password Change option on the second Panel Program Menu will display the Change Password screen.

The NFS2-3030 has two password levels; master and user. There is one master password, which grants access to all system programming. There are nine user passwords, each of which may be assigned access to the programming change menus, the alter status menus, or both. A user password does not give access to or allow change to any password parameters, not even its own. Only the master password will allow access to password change screens.

The panel arrives with factory default settings of 00000000 for the master password, and 11111111 for one user password.

NOTE: Only a master password user can change another password.

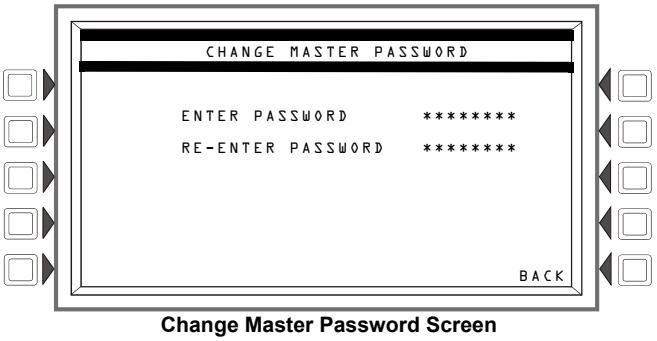


Change Password Screen

MASTER PASSWORD: Press to display the MASTER PASSWORD screen. Enter a new password that will replace the factory default password: there can be up to eight alphanumeric characters.

Press the enter key on the keyboard. RE-ENTER PASSWORD will appear. Reenter the password for verification. Press enter to save the new password.

USER PASSWORD: Press to display the USER PASSWORD screen.



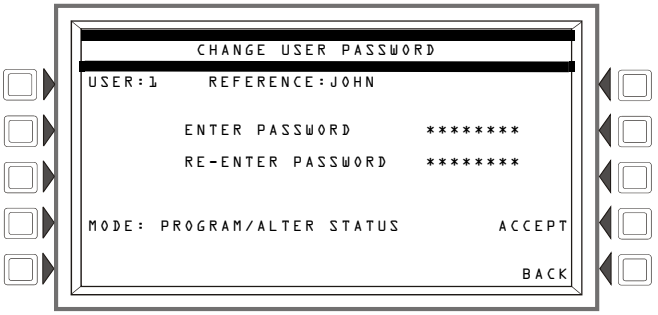
Change Master Password Screen

USER: Press this soft key to scroll through the nine user password numbers. When pressed, the rest of the display will update to reflect information for each new record. Stop at the password number that requires entering.

MODE: Press this soft key to select the user's level of access. Levels are as follows:

- PROGRAM/ALTER STATUS Gives access to the Program Change Menu and Alter Status Menu
- ALTER STATUS Gives access to the Alter Status Menu
- NONE Gives no access.

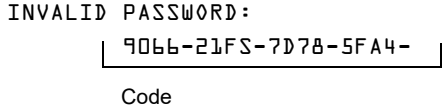
REFERENCE: Press this key to enter a maximum 20-character alphanumeric label that identifies the user. Press the enter key on the display/keyboard to enter the information.



Change User Password Screen

ENTER PASSWORD: Press to enter a new password. Enter up to eight alphanumeric characters, then press enter. RE-ENTER PASSWORD will appear. Retype the password for verification.

Incorrect or Invalid Password: If a password is entered incorrectly, the panel will respond by displaying INVALID PASSWORD message and a code. The programmer may hit the escape key and re-enter the password correctly. However, if the password has been forgotten, record the code and contact NOTIFIER. After proper authentication, the master password can be determined by deciphering the code.



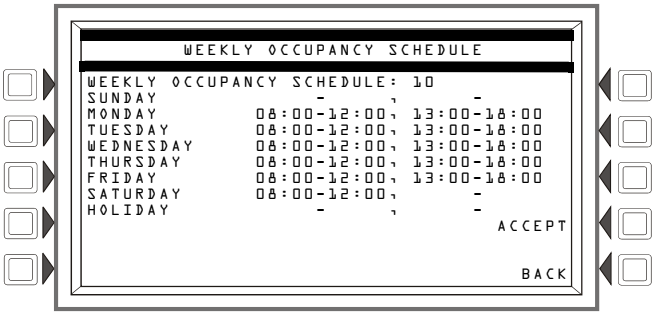
Code

Weekly Occupancy Schedule

Selecting the Weekly Occupancy Schedule option on the second Panel Programming screen will allow for up to ten difference occupancy schedules to be programmed.

WEEKLY OCCUPANCY SCHEDULE: Toggle between schedules 1 - 10. A value of zero indicates no schedule.

Use the arrow keys on the keyboard to navigate between occupancy time fields: Use the keypad to type in the time values.



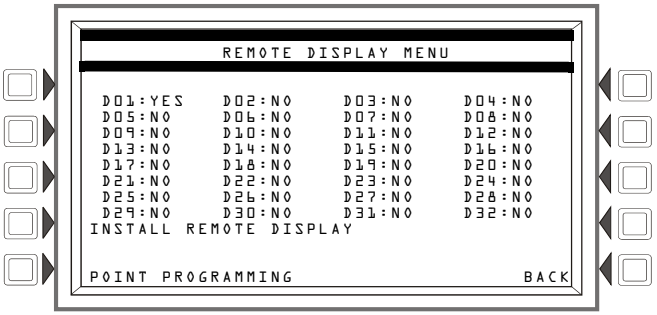
Weekly Occupancy Schedule Screen

Remote Display Menu

Selecting the Remote Display Menu option on the second Panel Programming screen will display the following programming options:

INSTALL REMOTE DISPLAY: To install a remote display, press the arrow keys to place the cursor on the line next to the remote display address to be installed. Press this soft key until YES displays. Default: NO

POINT PROGRAMMING: Press to display the Remote Display Programming screen and set programming options for the remote display.

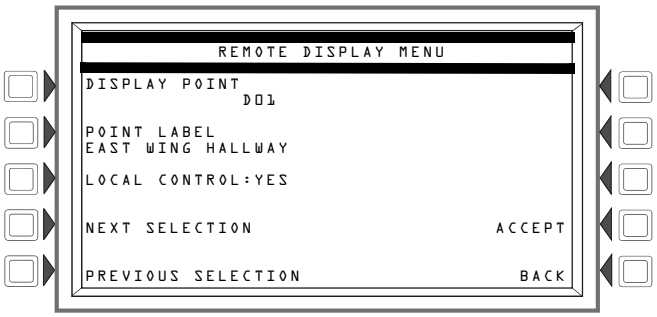


Remote Display Menu Screen

DISPLAY POINT: Press this soft key to bring the cursor to the underlined field. Use the keypad to type in the desired display address.

POINT LABEL: Press to bring the cursor to the underlined label field. Type in a label of up to 40 characters that will appear in trouble messages.

LOCAL CONTROL: Toggle between YES and NO. A setting of YES enables local control at the remote display.



Remote Display Point Programming Screen

Loop Configuration

Selecting the Loop Configuration option on the second Panel Programming screen will display the following programming options:

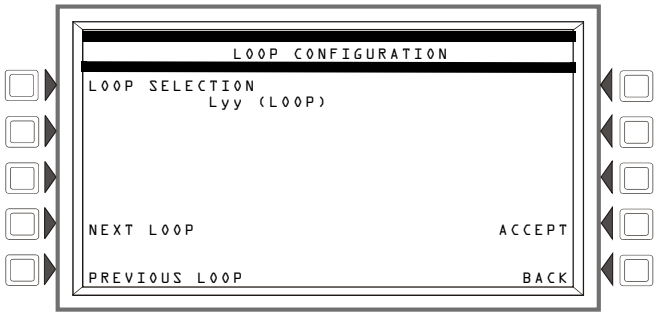
LOOP SELECTION: Invokes the cursor at the underlined field. Enter the loop number desired (01 through 10) in the yy of the Lyy format. Pressing ACEEPT will display the Loop Point Programming screen.

NEXT/PREVIOUS LOOP: Press to go forward or back through the loop selections.

INSTALLED: Toggle between YES and NO, depending on whether an SLC is installed at this address.

DETECTOR POLL: Select Loop Polling mode for detectors on this loop.

MODULE POLL: Select Loop Polling mode for modules on this loop.

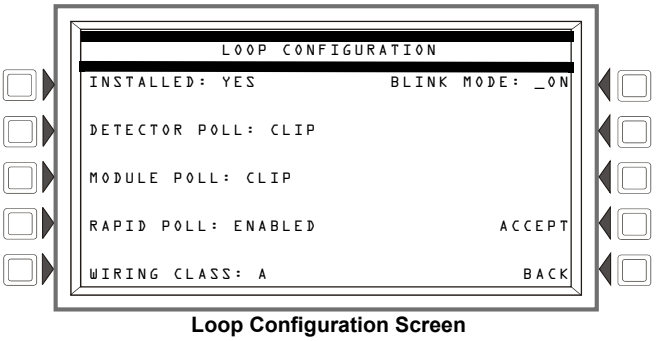


Loop Configuration Screen

RAPID POLL: CLIP mode only: enable or disable Rapid Poll for CLIP. This feature will poll the first 20 modules more often to speed response on manual pull stations.

WIRING CLASS: Select the NFPA wiring Class (B or A, X) of the loop. If Class A is entered when the wiring is Class B, a trouble message will be generated at the panel.

BLINK MODE: Press to ENABLE (ON) or DISABLE (OFF) detector LED blinking for this loop. If the Loop is configured in FlashScan mode with Blink Mode enabled, all detector and module LEDs will remain OFF. If the loop is configured in CLIP mode with Blink Mode enabled, the LEDs for detectors and monitor modules will remain OFF while the control modules operate normally.



Loop Configuration Screen

NOTES regarding FlashScan and CLIP Mode:
- Most FlashScan devices can be programmed to run in either CLIP or FlashScan mode. The types cannot be mixed on a loop. For example, if Loop 1 is programmed with a FlashScan module poll, CLIP modules may not be used on that loop.
- Auto-programming may change the poll type of detectors and/or modules for a given loop. If Autoprogram finds a CLIP detector or CLIP module on a loop, it will set the poll type for that loop to CLIP. If Autoprogram finds all detectors and/or modules on a given loop are FlashScan capable, it will change the poll type for that loop to FlashScan
- A detector's LEDs will light a steady green for several seconds while it is subjected to a detector test during FlashScan polling. Each detector is tested this way on a regular basis. During the short time the LEDs are on steady, the detector is not providing fire protection.

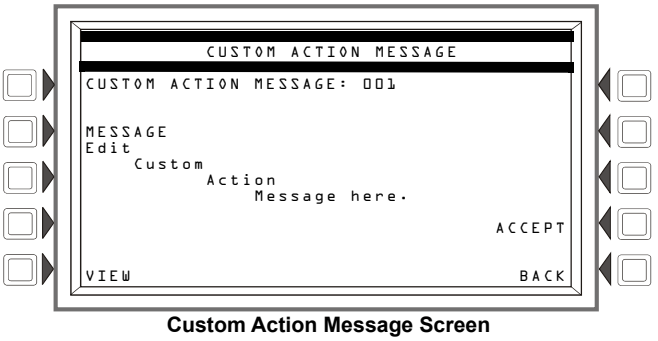
Custom Action Message

Selecting the Custom Action Message option on the second Panel Programming screen will display the following programming options:

CUSTOM ACTION MESSAGE: Enter a number with a value of 001 to 100 to display the corresponding Custom Action Message, or to add or edit a message.

MESSAGE: This soft key appears after VIEW is pressed.Press to enter/edit a custom message in the four lines indicated. The message may be up to 160 characters.

VIEW: Press this soft key to view the message that corresponds to the number entered in the underlined field.



Custom Action Message Screen

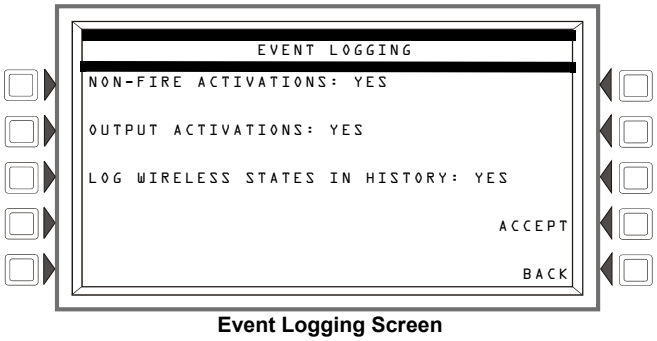
Event Logging

Selecting the Event Logging option on the second Panel Programming screen will display the following programming options:

NON-FIRE ACTIVATIONS: Toggle between YES and NO to enable/disable event logging for non-fire related activations. When enabled, the activations are logged into history and printed.

OUTPUT ACTIVATIONS: Toggle between YES and NO to enable/disable output activation logging. When enabled, the activations are logged in history and printed.

LOG WIRELESS STATES IN HISTORY: Toggle between YES and NO to enable/disable wireless device state logging. When enabled, the state of the wireless devices associated with the fire panel are logged in history and printed.



Event Logging Screen

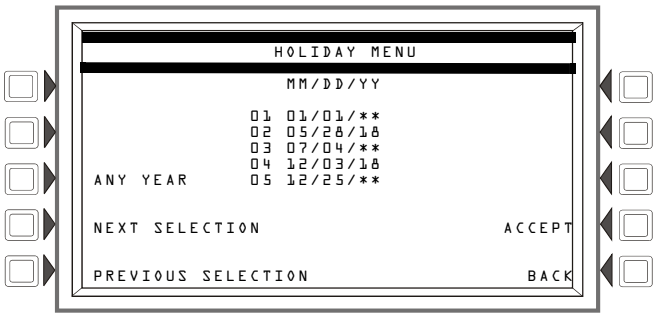
Holiday Menu

The Holiday Menu allows a user to program up to 15 holidays which are used with the occupancy schedule to determine holiday occupancy hours. Selecting the Holiday Menu option on the second Panel Programming screen will display the following programming options:

The cursor will appear in the date fields and can be moved using the keyboard arrow keys.

ANY YEAR: Press to place asterisks in the YY section of the field. An asterisk denotes any year.

NEXT/PREVIOUS SELECTION: Press to view the next or previous group of five holidays.



Holiday Menu Screen

4.3.3 Point Programming

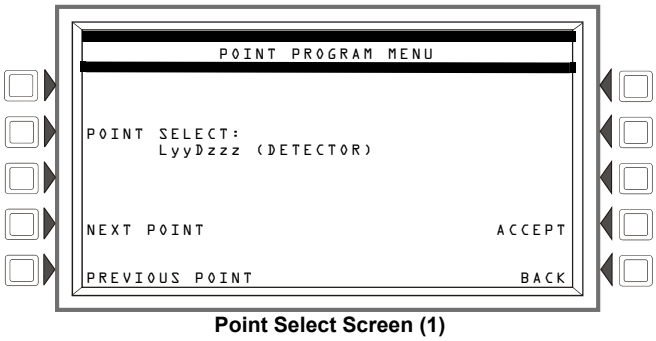
The Point Program menu allows the programmer to enter/change point information for detectors, modules, and general, releasing, logic and trouble zones.

Point Select Screen

The Point Select screen is displayed so the programmer can select a specific point to modify. (See below) The Point Select screen is displayed when programming a point as well as various programming options.

POINT SELECT: Press until the desired point type appears. Point format is as follows:

DETECTOR	LyyDzzz	L=Loop, yy=Loop number (1-10) D=Detector zzz=Detector address (1-159)
MODULE	LyyMzzz	L=Loop yy=Loop number (1-10) M=Module zzz=Module address (1-159)
GENERAL ZONE	Zyyy	Z=Zone yyy=Zone number (0-999)
LOGIC ZONE	ZLyyyy	ZL=Logic Zone yyyy=Logic Zone number (1-1000)
ANNUNCIATOR	Axx + Custom Label	A=Annunciator, Custom label
RELEASE ZONE	Ryy	R=Releasing Zone yy=Releasing Zone number (00-09)
TROUBLE ZONE	ZTyyy	ZT=Trouble Zone yyy=Trouble Zone number (1-100)
DVC/DAA	NxxxAAyy	N = Node, xxx=DVC Node number AA = DAA Audio Amplifier yy=DAA address (01 through 32). Note: When yy=00, the address format is the DVC address.



Point Select Screen (1)

NOTE: When programming points, take the following into design consideration:
• Each general zone must be dedicated to a single event type (i.e. Fire, MN, Security, etc.).
• Map inputs only to general zones designated for the input's event type. For example, map mass notification devices to general zones designated for mass notification.
• Outputs can be mapped to multiple general zones that are dedicated to different event types. For instance, a single output can be mapped to an MN general zone and a Fire general zone.

NEXT/PREVIOUS POINT: View the next or previous point.

Detector Point Programming

The control panel will automatically perform a detector initialization routine when a detector is added/changed in programming or if the detector was removed for more than 15 seconds. This can take approximately 2.5 minutes. During this time, the detector does not perform fire protection functions. When in this mode, the LEDs of the detectors will be on a stead green (for FlashScan) or red (for CLIP). Make sure the detector is free of residual smoke during initialization and do not test the detector till initialization is complete.

Replacing a detector with a different type of detector:

When replacing a detector with a different type of detector, the control panel must be immediately programmed for the new detector type to avoid incorrect panel operation, including false alarms. To replace a detector, follow these steps:

Step	Action
1	Delete the old detector point from FACP programming. (refer to Section 4.3.4, “Delete Programming”, on page 62)
2	Physically remove the old detector.
3	Enter point programming for this point and change the Type and FlashScan Code label to the values appropriate for the new detector. (Refer to the detector point programming options listed below)
4	Physically install the new detector. Initialization will occur automatically.

Selecting a detector point in the Point Select field of the Point Programming screen will display the following detector programming options:

type:

Scroll through available type choices (Refer to Table 4 on page 46). If this is a new device, no other programming options will be displayed until a type is chosen and ACCEPT is pressed.

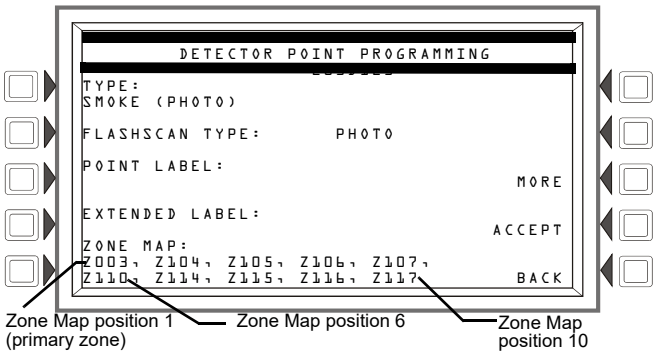
FLASHSCAN TYPE: Scroll through a list of Flashscan codes available for the device type selected. Select NONE if the device is not Flashscan.

POINT LABEL: Press to enter a point label up 20 characters long. If no entry is made, the field will default to the point address.

EXTENDED LABEL: Press to enter an extended point label up to 12 characters long.

ZONE MAP: Displays the zones mapped to this device. Press to display the Zone Map screen. Refer to “ZONE MAP” on page 45 for information on the Zone Map screen and page 63 for a list of available zone types and their descriptions.

MORE: Displays the second Detector Point Programming Screen.

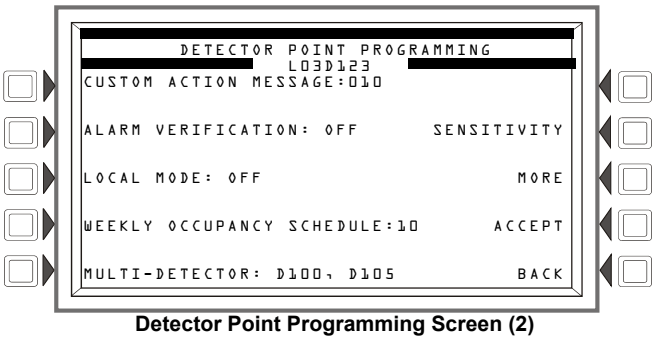


Detector Point Programming Screen (1)

CUSTOM ACTION MESSAGE: Displays the custom action message number (1 through 100). The default value is 0 (no message). Press to display the Custom Action Message screen.

ALARM VERIFICATION: Press to determine the device’s participation in Alarm Verification. Choosing YES will set the device participation to the values entered at the Panel Timers screen. Refer to page 36 for Panel Timer programming information.

LOCAL MODE: Toggle between Local Mode (ON) or no Local Mode (OFF). During communication loss between the panel and its LCM/LEMs, SLC devices selected for Local Mode participation (ON) will continue to function across all the panel’s SLCs in a limited manner. Input points will activate output points of the same point type designations. For example, SLC inputs with “fire” point types will activate SLC outputs with “fire” point types. Refer to Table 4 for detector point type information.



Detector Point Programming Screen (2)

NOTE: The panel setting LCM LOCAL MODE must be set to YES for local mode to work at the device level.

WEEKLY OCCUPANCY SCHEDULE: Choose an existing weekly occupancy schedule, press to proceed to the Detector Occupancy Schedule screen. Refer to page 41 for an example of the Weekly Occupancy Schedule screen.

MULTI-DETECTOR: Displays up to 2 other detectors that can be linked with the one being programmed for cooperative multi-detector sensing. The detector addresses do not need to be sequential.

SENSITIVITY: Displays the Detector Sensitivity Screen. (Refer to page 46)

MORE: Displays the third Detector Programming Screen. The third detector programming screen may display different programming options depending on type ID selected.)

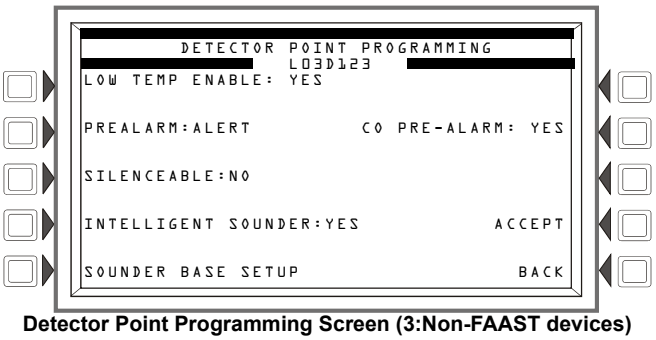
LOW TEMP ENABLE: Fire/CO detectors only: Select YES or NO to enable the Low Temperature Warning.

PREALARM: select ALERT or ACTION for the Prealarm function.

SILENCEABLE: Determines whether a user can manually silence an activated sounder/relay base.

NO: Not manually silenceable.
YES - RESOUND FIRE: Silenceable, resound on fire events (Network and Local resound)
YES - RESOUND SUPERV: Silenceable, resound on supervisory events (Network and Local resound)
YES - NO RESOUND: Silenceable, no resound

NOTE: Specific nodes can be excluded from having the ability to initiate a resound on the local fire panel. This option is programmable via VeriFire Tools.



Detector Point Programming Screen (3:Non-FAAST devices)

INTELLIGENT SOUNDER: select YES if an Intelligent Sounder Base is installed for this detector.

SOUNDER BASE SETUP: Displays the Sounder Base Setup screen for the detector. (Refer to page 46)

CO PRE-ALARM: Fire/CO detectors only: Select YES or NO to enable the CO Prealarm function for the Fire/CO smoke detector.

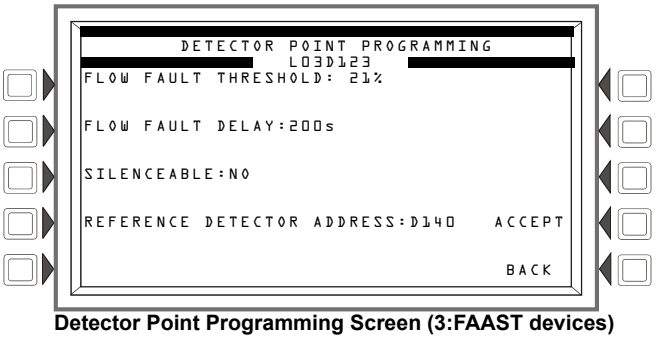
FLOW FAULT THRESHOLD: Set the percentage change from the baseline value when a Flow Fault is detected. Range: 0-45%. Default: 21%

FLOW FAULT DELAY: Set the amount of time before the panel indicates the Flow Fault. Range 0-255 seconds. Default: 200s.

SILENCEABLE: Determines whether a user can manually silence an activated sounder/relay base.

NO: Not manually silenceable.
YES - RESOUND FIRE: Silenceable, resound on fire events (Network and Local resound)
YES - RESOUND SUPERV: Silenceable, resound on supervisory events (Network and Local resound)
YES - NO RESOUND: Silenceable, no resound

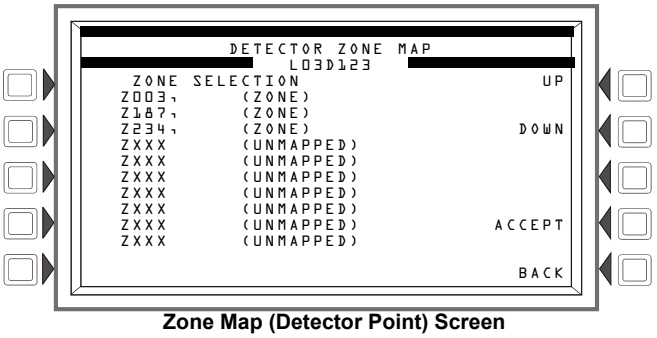
NOTE: Specific nodes can be excluded from having the ability to initiate a resound on the local fire panel. This option is programmable via VeriFire Tools.



Detector Point Programming Screen (3:FAAST devices)

REFERENCE DETECTOR ADDRESS: Set a detector for to be used as a reference for air flow for other FAAST detectors. All 5 detectors of each FAAST device using this detector as a reference must be set with the same reference detector address, have the same Threshold value (set via PipeIQ), and must be on the same loop as the reference detector. Range: 0, 1-159. Default: 0 (No reference detector programmed)

ZONE MAP: Up to 10 zones. Press to display the Zone Map screen and modify zone programming. During initial programming, the primary zone (position 1) displayed is associated with the loop the device is installed on. In the example, the device's default programming set the primary zone as Z003, indicating that the device is installed on Loop 3. Certain zone map positions are used for specific functions.



Zone Map (Detector Point) Screen

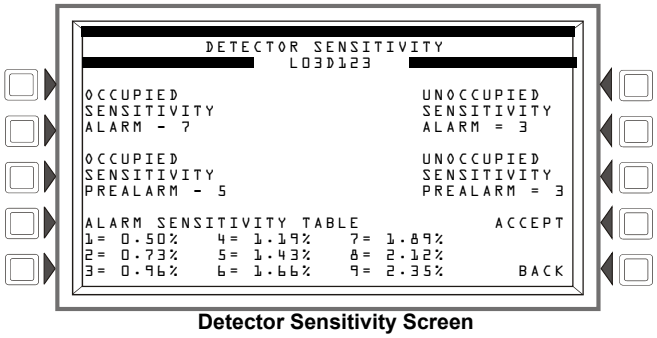
- Position 1 - Use to link zone label to detector and for group zone disable.
- Position 3 - Fire/CO detector only: Activates when the photo element of the Fire/CO detector activates.
- Position 4 - Fire/CO and PHOTO/CO detectors only: Activates when the CO element of the Fire/CO detector activates. (Map the zone in this location to one of the Aux Controls of the intelligent sounder bases in order to play the Temp-4 tone for CO Alarms.)
- Position 5 - Fire/CO, PHOTO/CO, and CO detectors only: Activates when the Fire/CO detector reports a CO Pre-Alarm.
- Position 9 - Used to activate sounder/relay bases of FlashScan detectors.
  When mapped to the same zone as Position 10, the sounder or relay base will activate when the detector goes into prealarm (Action).
  When mapped to a general or logic zone, and this zone activates, the panel is searched for any detector with the same zone mapped in its 9th position. The sounder base of any FlashScan detector that matches the search will activate. Continuous tone only. Position 9 is not typically used with intelligent sounder bases.
- Position 10 - Used for detectors set to Prealarm, Action. This zone will activate when the detector reaches its Prealarm threshold; no other zones in this detector's zone map will activate.

SENSITIVITY: The control panel provides 9 levels of Prealarm and Alarm in percent per foot obscuration with the following 3 exceptions:

- for heat detectors, the settings are in degrees Centigrade.
- for beam detectors, there are only 6 levels of Alarm. Prealarm is not an option for beam detectors in CLIP mode.
- for Intelliquad FSC-851 detectors, there are only six levels of Alarm and Prealarm for FlashScan mode, The sixth level is a fixed 135°F, and it is not available in CLIP mode.

Alarm sensitivity: values range from one to nine; one represents the most sensitive level, nine the least sensitive.

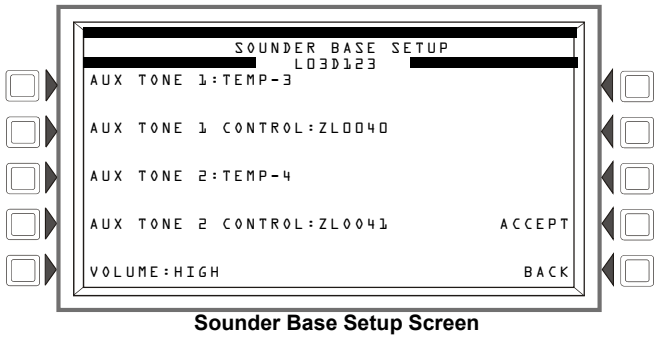
Prealarm sensitivity: values range from zero to nine; Zero indicates no prealarm, a value of one can be a self-optimizing setting where the control panel selects a suitable prealarm level for the detector. Values one or two through nine represent decreasing sensitivity, with nine being the least sensitive.
Refer to Table 5 on page 48 for sensitivity settings for detectors by type.



Detector Sensitivity Screen

SOUNDER BASE SETUP

- AUX TONE 1: Press to select continuous, TEMP-3, TEMP-4, MARCH, or CUSTOM for the first auxiliary tone of the intelligent sounder base.
- AUX TONE 1 CONTROL: Press to enter the Logic, General or Trouble Zone that will control the activation of the first auxiliary tone of the intelligent sounder base.
- AUX TONE 2: Press to select continuous, TEMP-3, TEMP-4, MARCH, or CUSTOM for the second auxiliary tone of the intelligent sounder base.
- AUX TONE 2 CONTROL: Press to enter the Logic, General or Trouble Zone that will control the activation of the second auxiliary tone of the intelligent sounder base.
- VOLUME: Press to select LOW or HIGH for the intelligent sounder base volume level.



Sounder Base Setup Screen

For Custom Tone Setup, refer to page 35.

■ Detector Type Codes

Following is a list of intelligent detector Type Codes, which specify the type of detector installed at an SLC address.

Type Code	Point Type	Latching	Activates CBE	Device/Point Function
ASPIRATION[1]	fire	Y	Y	Aspiration laser or Intelligent Aspiration detector
ASPIR. (SUP)[1]	supervisory	Y	Y	Supervisory for Intelligent Aspiration detector
ASPIR. (PRE)[1]	prealarm	N	Y	Pre-alarm for Intelligent Aspiration detector
ASPIR. (NON)[1]	non-fire	N	Y	Non-fire for Intelligent Aspiration detector
ASPIR. (REF)[1]	non-fire	N	Y	Reference for Intelligent Aspiration detector
Note: for Aspiration detector programming: The FAAST Intelligent Aspiration detector requires five (5) consecutive SLC devices addresses. Refer to the *FAAST installation documentation* for additional programming information.				
SMOKE (ION)	fire	Y	Y	Ionization smoke detector
SUP L(ION)[2]	supervisory	Y	Y	Ionization smoke detector
SUP T(ION)[2 3]	supervisory	N	Y	Ionization smoke detector
SMOKE(DUCTI)	fire	Y	Y	Duct Ionization smoke detector
SUP L(DUCTI)	supervisory	Y	Y	Duct ionization smoke detector
SUP T(DUCTI)[3]	supervisory	N	Y	Ionization smoke detector used as a duct detector to report supervisory condition rather than alarm.
SMOKE(PHOTO)	fire	Y	Y	Photoelectric smoke detector
SUP L(PHOTO)[2]	supervisory	Y	Y	Photoelectric smoke detector
SUP T(PHOTO)[2 3]	supervisory	N	Y	Photoelectric smoke detector
SMOKE(DUCTP)	fire	Y	Y	Duct Photoelectric smoke detector
SUP L(DUCTP)	supervisory	Y	Y	Photoelectric smoke detector used as a duct detector to report supervisory condition rather than alarm
SUP T(DUCTP)[3]	supervisory	N	Y	Photoelectric smoke detector used as a duct detector to report supervisory condition rather than alarm.
RFSMOKE(PHOTO)	fire	Y	Y	Wireless Photoelectric smoke detector
SMOKE(HARSH)	fire	Y	Y	HARSH smoke detector
SMOKE(LASER)	fire	Y	Y	Laser smoke detector
SUP T (LASER)[2 3]	supervisory	N	Y	Laser Smoke Detector
SUP L (LASER)[2]	supervisory	Y	Y	Laser Smoke Detector
SMOKE(DUCTL)	fire	Y	Y	Duct Laser smoke detector

Table 4 Intelligent Detector Type Codes (1 of 2)

Type Code	Point Type	Latching	Activates CBE	Device/Point Function
SUP L(DUCTL)	supervisory	Y	Y	Laser smoke detector used as a duct detector to report supervisory condition rather than alarm.
SUP T(DUCTL)	supervisory	N	Y	Laser smoke detector used as a duct detector to report supervisory condition rather than alarm.
FIRE/CO	fire	Y	Y	Combination Photoelectric/CO detector
F/CO (P SUP)[1]	fire	Y (See Note below)	Y	Combination Photoelectric/CO detector. Photo element activation generates a supervisory condition.
F/CO (C SUP)	fire	Y (See Note below)	Y	Combination Photoelectric/CO detector. CO element activation generates a supervisory condition.
Note: For Fire/CO detectors: Detectors programmed as F/CO (P SUP), the Heat and CO elements will latch and require a system reset to clear. The Photo element will latch or track, depending on the Fire/CO (Photo SUP) setting. Refer to "FIRE/CO (PHOTO SUP) LATCHING" on page 34. Detectors programmed as F/CO (C SUP), the Heat and Photo elements will latch and require a system reset to clear. The CO element will latch or track, depending on the Fire/CO (CO SUP) setting. Refer to "FIRE/CO (CO SUP) LATCHING" on page 34.				
PHOTO/CO	Fire	Y	Y	PHOTO CO detector.
P/CO (P SUP)	PHOTO- Supervisory CO- Alarm	Y (See note below)	Y	PHOTO CO detector
P/CO (C SUP)	PHOTO- Fire CO- Supervisory	Y	Y	PHOTO CO detector
CO Alarm	CO Alarm	Y	Y	CO detector
CO SUP	Supervisory	Y (See note below)	Y	CO detector
Note: PHOTO/CO and CO Detectors programmed as PHOTO/CO (P SUP)/CO (CO SUP) will either latch or track, depending on the setting.				
AIR REF	fire	Y	Y	Assign to one or more FSL-751detectors used to monitor the quality of air entering the protected area. The air quality measurement allows the VIEW system to compensate for vehicle fumes, fog, or other particles brought into the protected area through the ventilation system. Poor air quality will lower the sensitivity of all FSL-751 detectors on the SLC. The detector sensitivity, however, remains within approved limits (always less than 1% obscuration per foot).
Note: A reference detector still functions as a smoke detector, but the detector sensitivity level should be set to the least sensitive level—AL:9 and PA:9 Alarm and Pre-Alarm sensitivity. Refer to "Detector Sensitivity Settings" on page 47 for a complete list of detector sensitivity settings.				
HEAT	fire	Y	Y	190°F heat detector
HEAT+	fire	Y	Y	190°F heat detector with low temperature warning
HEAT(FIXED)	fire	Y	Y	135°F intelligent thermal sensor
HEAT (ROR)	fire	Y	Y	15°F per minute rate-of-rise detector
SMOKE ACCLIM	fire	Y	Y	Combination Photoelectric/heat detector
SMOKE(ACCLI+)	fire	Y	Y	Combination Photoelectric/heat detector with low temperature warning, *or* Intelliquad FSC-851 Photoelectric Multi-Criteria Smoke Sensor.
SMOKE(MULTI)[4]	fire	Y	Y	Multi-sensor smoke detector
SMOKE(BEAM)	fire	Y	Y	Beam Smoke Detector
ACCL(P SUP)	fire	Y (See note below)	Y	Combination Photoelectric/Heat detector. Photo element activation generates a supervisory condition.
ACCL+(P SUP)	fire	Y (See note below)	Y	Combination Photoelectric/Heat detector with low temperature warning. Photo element activation generates a supervisory condition.
Note: For ACCL/ACCL+ detectors: Detectors programmed as ACCL (P SUP) or ACCL+(P SUP), the Heat element will latch and require a system reset to clear. The Photo element will latch or track, depending on the ACCL (P SUP) Latching setting. Refer to ACCL(P SUP) LATCHING on page 34.				

Table 4 Intelligent Detector Type Codes (2 of 2)

1 When a device associated with a FAAST device is disabled locally, all devices associated with that FAAST will automatically be disabled as well.
2 Use only with approval of AHJ
3 Not suitable for Canadian applications
4 CLIP Mode only

■ Detector Sensitivity Settings

The following is a table of detector sensitivity settings by detector type:

Note: If a detectors sensitivity is changed to a value in its Special Applications range, the extended label should be modified at this detector address to include the phrase `SPECIAL APPLICATIONS' or `SPECIAL APPS'. Refer to the VeriFire Tool help files for more information on extended label programming.

Detector Type	Alarm (FlashScan)	Alarm (CLIP)	Pre-Alarm
Photo Electric SMOKE (PHOTO) (See notes [1]and [2])	AL:1=0.50 % AL:2=0.73 % AL:3=0.96 % AL:4=1.19 % AL:5=1.43 % AL:6=1.66 % AL:7=1.89 % AL:8=2.12 %~ AL:9=2.35 %		PA:1=Auto PA:2=0.30 % PA:3=0.47 % PA:4=0.64 % PA:5=0.81 % PA:6=0.99 % PA:7=1.16 % PA:8=1.33 %~ PA:9=1.50 %
Ion SMOKE (ION) (See notes [1], [3], and [4])	AL:1=0.50 % AL:2=0.75 % AL:3=1.00 % AL:4=1.25 % AL:5=1.50 % AL:6=1.75 %~ AL:7=2.00 % AL:8=2.25 % AL:9=2.50 %		PA:1=Auto PA:2=0.40 % PA:3=0.50 % PA:4=0.75 % PA:5=1.00 % PA:6=1.25 %~ PA:7=1.50 % PA:8=1.75 % PA:9=2.00 %
FlashScan Laser (See notes [4] and [5])	AL:1=0.02 % AL:2=0.03 % AL:3=0.05 % AL:4=0.10 % AL:5=0.20 % AL:6=0.50 %~ AL:7=1.00 % AL:8=1.50 % AL:9=2.00 %		PA:1=Auto PA:2=0.02 % PA:3=0.05 % PA:4=0.10 % PA:5=0.20 % PA:6=0.50 %~ PA:7=0.70 % PA:8=1.00 % PA:9=1.50 %
Acclimate Multi-Sensor See notes [6] and [7])	AL:1=0.50 % AL:2=1.00 % AL:3=1.00 to 2.00 % AL:4=2.00 % AL:5=2.00 to 3.00 %~ AL:6=3.00 % AL:7=3.00 to 4.00 % AL:8=4.00 % AL:9=thermal 135°F	AL:1=1.00 % AL:2=1.00 % AL:3=1.00 to 2.00 % AL:4=2.00 % AL:5=2.00 to 4.00 %~ AL:6=2.00 to 4.00 % AL:7=2.00 to 4.00 % AL:8=4.00 % AL:9=4.00 %	PA:1=0.50 % PA:2=1.00 % PA:3=1.00 % PA:4=1.00 to 2.00 % PA:5=1.00 to 2.00 %~ PA:6=2.00 % PA:7=2.00 % PA:8=2.00 to 3.00 % PA:9=2.00 to 3.00 %
Heat (Adjustable Threshold)	AL:1=43°C AL:2=57°C AL:3=63°C~ AL:4=68°C AL:5=74°C AL:6=88°C AL:7=88°C AL:8=88°C AL:9=88°C		PA:1=40°C PA:2=43°C PA:3=57°C~ PA:4=65°C PA:5=70°C PA:6=75°C PA:7=75°C PA:8=75°C PA:9=75°C
Beam (See note [8])	AL:1=25% AL:2=30% AL:3=40% AL:4=50% AL:5=30 - 50% AL:6=40 - 50%		PA:1=50% PA:2=55% PA:3=60% PA:4=65% PA:5=70% PA:6=75% PA:7=80% PA:8=85% PA:9=90%
Intelliquad FSC-851 (See Note [9])	AL:1= 1% AL:2= 2% AL:3= 3% AL:4= 3% w/ 10 minute confirmation period[****] AL:5= 4% w/ 10 minute confirmation period AL:6= Thermal 135°F		PA:1= 1% PA:2= 2% PA:3= 3% PA:4= 3% w/ 10 minute confirmation period PA:5= 4% w/ 10 minute confirmation period PA:6= Thermal 135°F

Table 5 Detector Sensitivity Settings (1 of 2)

Detector Type	Alarm (FlashScan)	Alarm (CLIP)	Pre-Alarm
Fire/CO (See note [10] and [11])	AL:1=1% AL:2=2% AL:3=3%		PA:1=1% PA:2=2% PA:3=3%
PHOTO/CO (See note [12])	AL:4=3% with a 10 minute confirmation period[****] AL:5=4% with a 10 minute confirmation period AL:6=Thermal 135°F		PA:4=3% with a 10 minute confirmation period PA:5=4% with a 10 minute confirmation period PA:6=Thermal 135°F
			~Signifies the factory default setting.

Table 5 Detector Sensitivity Settings (2 of 2)

1 Detectors are suitable for open area protection within the listed air velocity range. Typically, this range is 0 - 4,000 ft/min for photoelectric detectors and 0 - 1,200 ft/min for ionization detectors. Be sure to confirm this range before installing the detector by referring to the manufacturer's installation instructions. The nominal sensitivity displayed on the FACP is for reference only.

2 Photo detectors (FSP-951/IV, FSP-951R/IV, FSP-951T/IV) in UL268 7th Edition compliance must be programmed as follows: Open Area Protection sensitivity level 8 or 9, for Special Applications: sensitivity level 1 though 7. (default is 8)

3 For ION detectors installed in Canada: Use only an alarm sensitivity setting of AL=1, AL=2 or AL=3.

4 The use of alarm sensitivities below 0.50% obscuration per foot requires a 90 day test to ensure that the environment for the detectors is suitable for the higher sensitivity setting.

5 1% max. on CLIP. Larger figures may display.

6 For Acclimate detectors installed in Canada: Use only the alarm settings of AL:1 or AL:2.

7 Acclimate detectors (FPTI-951/951-IV) in UL 268 7th Edition compliance must be programmed as follows: Open Area Protection: sensitivity level 8, for Special Applications sensitivity level 2, 4, or 6 (default is 8)

8 Refer to the beam detector manual to determine the alarm settings: they are a function of the distance between the detector and its reflector. There is no Prealarm for beam detectors in CLIP mode.

9 AL:6 and PA:6 are not available in CLIP mode.

10 Fire/CO detectors (FCO951/951-IV) in UL 268 7th Edition compliance must be programmed as follows: Open Area Protection sensitivity level 3, 4, or 5, for Special Application: sensitivity level 1 and 2 (default is 4)

11 If there is a detection of another fire signature (Carbon Monoxide, Infrared, or Thermal) within the 10 minute signature confirmation delay period, it overrides the 10 minute confirmation time.

12 The heat only setting (sensitivity level 6) applies to Fire/CO only. For 7th edition PHOTO/CO devices the default setting is 5.

Module Point Programming

Selecting a module point in the Point Select field of the Point Programming screen will display the following module programming options:

MODULE TYPE: Press to toggle between CONTROL and MONITOR.

TYPE CODE LABEL: Press to scroll through the point type choices and stop at the appropriate selection. Refer to pages 51 and 53.

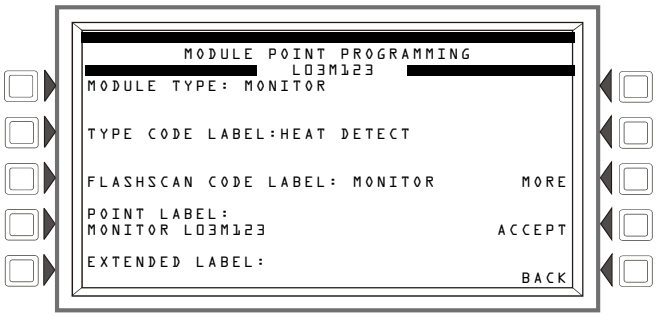
FLASHSCAN TYPE: Press to scroll through the point type choices: stop at the appropriate selection (Refer to page 54) Select NONE if the device is not Flashscan.

NOTE: For initial point programming, module type, type code label, and flashscan type must be entered before any entries can be saved using the ACCEPT key. Refer to page 54.

POINT LABEL: Press to enter a point label up 20 characters long. If no entry is made, the field will default to the point address.

EXTENDED LABEL: Press to enter an extended point label up to 12 characters long.

MORE: Displays the second Module Point Programming Screen.



Module Point Programming Screen (1)

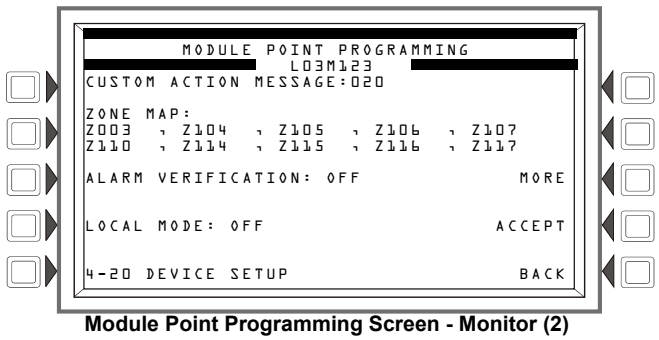
■ Monitor Module Point Programming

With MONITOR selected as the module type, pressing the MORE key will display the following monitor module programming options:

CUSTOM ACTION MESSAGE: Displays the custom action message number (1 through 100). The default value is 0 (no message). Press to display the Custom Action Message screen.

ZONE MAP: Displays the zones mapped to this device. Press to display the Zone Map screen. Refer to "ZONE MAP" on page 50 for a description of the Zone Map screen and page 63 for a list of available zone types and their descriptions.

ALARM VERIFICATION: Press to determine the device's participation in Alarm Verification. Choosing Yes will set the device participation to the values entered at the Panel Timers screen. The only module type that can participate in alarm verification is the FZM-1. Refer to page 36 for Panel Timer programming information.



Module Point Programming Screen - Monitor (2)

LOCAL MODE: Toggle between Local Mode (ON) or no Local Mode (OFF). During communication loss between the panel and its LCM/LEMs, SLC devices selected for Local Mode participation (ON) will continue to function across all the panel's SLCs in a limited manner. Input points will activate output points of the same point type designations. For example, SLC inputs with "fire" point types will activate SLC outputs with "fire" point types. Refer to Table 6 for monitor module point type information.

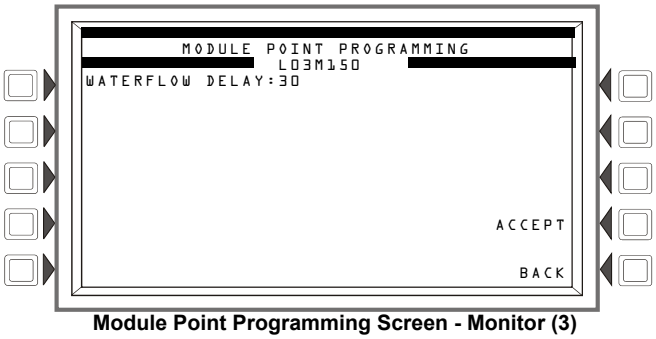
NOTE: The panel setting LCM LOCAL MODE must be set to YES for local mode to work at the device level.

4-20 DEVICE SETUP: FMM-4-20module only: Displays the FMM-4-20 device setup screen. (Refer to page 50) This field appears only when FMM-420 appears as the module's Type Code label.

MORE: Press to display the third Module Point Programming screen.

WATERFLOW DELAY: When the WATERFLOW DELAY option is set to 0, waterflow events are immediately reported to the panel upon activation. If a non-zero value is entered in the WATERFLOW DELAY, activation of a waterflow event is delayed for the duration of that time. The waterflow event will have to remain active for the duration of the delay. If the waterflow event does not remain active for the entire delay duration, the waterflow event will not be reported to the panel. Default: 0. Range: 0-60 seconds

ZONE MAP: Up to 10 zones. Press to display the Zone Map screen and modify zone programming. (Refer to "ZONE MAP" on page 45 for an illustration). During initial programming, the primary zone (position 1) displayed is associated with the loop the device is installed on. In the example, the device's default programming set the primary zone as Z003, indicating that the device is installed on Loop 3. Certain zone map positions are used for specific functions.



Module Point Programming Screen - Monitor (3)

- Position 1: Use to link zone label to detector and for group zone disable.
- Position 3-7: FMM-4-20 module only: These positions are assigned to FMM-4-20 threshold levels 1 - 5 respectively. (Threshold levels are user-programmed.See below.) Each will activate only if the device is currently at that threshold level. Once the device leaves that threshold level, the zone in its corresponding CBE position will remain active or deactivate according to whether its threshold is programmed for latching or tracking.

4-20 DEVICE SETUP: Press the 4-20 Device Setup key to access the following 4-20 module options.

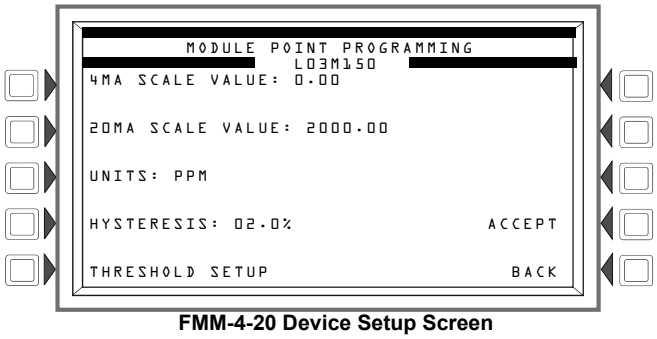
4MA SCALE VALUE: Enter the 4 mA value.

20MA SCALE VALUE : Enter the 20 mA value.

UNITS: Enter the kind of units (5 spaces).

HYSTERESIS: Enter the hysteresis value in decimals as a percentage of the overall 4 to 20 mA range. Default: 0

THRESHOLD SETUP: Press to display the Threshold Setup screen to access the following 4-20 module threshold options.



FMM-4-20 Device Setup Screen

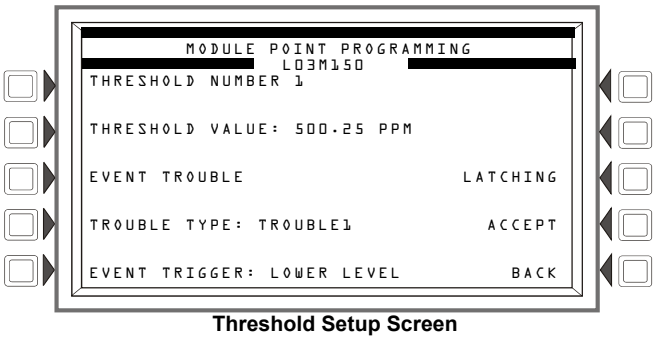
THRESHOLD NUMBER: Enter the threshold number (1 - 5) that will be described in this screen.

THRESHOLD VALUE: Enter the value for this threshold. (Threshold value is represented in the unit type specified on the FMM-4-20 Device Setup Screen.)

EVENT: Select the event type that will generate when this threshold is reached. Selections are NO EVENT, TROUBLE, FIRE, SUPERVISORY, SECURITY, NON-FIRE, and CRITICAL PROCESS.

TROUBLE TYPE: Select a trouble type for this threshold: TROUBLE 1, TROUBLE 2, or DEVICE INHIBIT. Device Inhibit will generate a trouble when the FMM-4-20 is in a self-calibration state.

EVENT TRIGGER: Select LOWER LEVEL (values are falling), UPPER LEVEL (levels are rising), or SAME LEVEL.



Threshold Setup Screen

TRACKING/LATCHING: Select TRACKING or LATCHING for the threshold trouble. If more than one threshold has been programmed as latching, the first threshold reached will be the one that is latched.

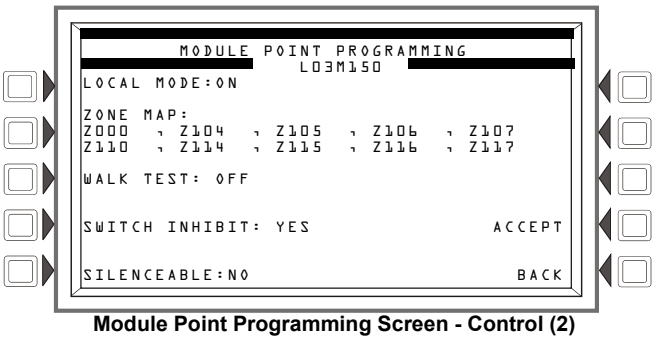
■ Control Module Point Programming

With CONTROL selected as the module type, pressing the MORE key will display the following control module programming options:

LOCAL MODE: Toggle between Local Mode (ON) or no Local Mode (OFF). During communication loss between the panel and its LCM/LEMs, SLC devices selected for Local Mode participation (ON) will continue to function across all the panel's SLCs in a limited manner. Input points will activate output points of the same point type designations. For example, SLC inputs with "fire" point types will activate SLC outputs with "fire" point types. Refer to Table 7 for control module point type information.

NOTE: The panel setting LCM LOCAL MODE must be set to YES for local mode to work at the device level.

ZONE MAP: Displays the zones mapped to this device. Press to display the Zone Map screen. Refer to "ZONE MAP" on page 45 for a description of the Zone Map screen and page 63 for a list of available zone types and their descriptions.



Module Point Programming Screen - Control (2)

WALK TEST: Determines if the output will activate during Walk Test. Values are ON (the output will activate) and OFF (the output will not activate). Default: OFF.

NOTE: The following Type ID codes do not participate in Walk Test, and the WALK TEST soft key will not appear when the screen displays: rEL END BELL, RELEASE CKT, REL CKT ULC, REL. FORM C, REL AUDIBLE, INST RELEASE, NONRESET CTL, TELEPHONE, and FORM-C RESET. The FMM-1 module with SMOKE CONV, HEAT DETECT, or SMOKE DETECT does not participate in Walk Test.

SWITCH INHIBIT: This field determines whether a user can manually activate an output. Values are YES (can not be activated manually) or NO (can be activated manually). Default: NO.

SILENCEABLE: Determines whether the user can manually silence an activated output. Values are as follows:

- NO: Not manually silenceable.
- YES - RESOUND FIRE: Silenceable, resound on fire events (Network and Local resound)
- YES - RESOUND SUPERV: Silenceable, resound on supervisory events (Network and Local resound)
- YES - RESOUND SECURITY: Silenceable, resound on security events (Network and Local resound)
- YES - RESOUND TROUBLE: Silenceable, resound on trouble events (Local resound)
- YES - NO RESOUND: Silenceable, no resound

NOTE: Specific nodes can be excluded from having the ability to initiate a resound on the local fire panel. This option is programmable via VeriFire Tools. The SILENCEABLE soft key will not appear for type codes where silence is not an option.

■ Type Codes for Monitor Modules

Following is a list of monitor module Type Codes, which can be used to change the function of a monitor module point.

Type Code	Point Type	Point Characteristics		
		Latching	Activates CBE	Device Function
MONITOR	fire alarm	Y	Y	Alarm-monitoring device
NC MONITOR	fire alarm	Y	Y	Alarm monitoring device, where an open circuit=active.
PULL STATION	fire alarm	Y	Y	Manual fire-alarm-activating device
SMOKE CONVEN	fire alarm	Y	Y	Indicates activation of a conventional smoke detector. An FZM-1 must be used for alarm verification of a two-wire conventional detector.
SMOKE DETECT	fire alarm	Y	Y	Indicates activation of a conventional smoke detector. An FZM-1 must be used for alarm verification of a two-wire conventional detector
WATERFLOW	fire alarm	Y	Y	Monitor for waterflow alarm switch
WATERFLOW S	supervisory	Y	Y	Indicates supervisory condition for activated waterflow switch
ACCESS MONTR	non-alarm security	N	Y	Used for monitoring building access
AREA MONITOR	security	Y	Y	Monitors building access
AUDIO SYSTEM	trouble	N	N	Used for monitoring audio equipment (use trouble zones for activations)
EQUIP MONITR	non-alarm security	N	Y	Used for monitoring equipment
FMM-420	user-programmable	Y	Y	Monitors 4-20 mA industrial sensors.
SECURITY L	security	Y	Y	Indicates activation of security alarm
LATCH SUPERV	supervisory	Y	Y	Indicates latching supervisory condition
NC SUP L	supervisory	Y	Y	Indicates latching supervisory condition, where an open circuit=active.
TRACK SUPERV	supervisory	N	Y	Monitors for waterflow tamper switches for alarm points
NC SUP T	supervisory	N	Y	Indicates tracking supervisory condition, where an open circuit=active.
SPRINKLR SYS	supervisory	Y	Y	Monitors a waterflow device
SYS MONITOR	security	Y	Y	Monitors equipment security
TAMPER	supervisory	Y	Y	Indicates activation of tamper switch
ACK SWITCH	non-alarm	N	N	Performs Acknowledge function
ALLCALL PAGE	non-alarm	N	Y	Performs function AMG-1 All-call and telephone page

Table 6 Type Codes for Monitor Modules (1 of 2)

Type Code	Point Type	Point Characteristics		
		Latching	Activates CBE	Device Function
DRILL SWITCH	non-alarm[1]	Y	N	Performs Drill function (Not for use in Canadian Applications)
EVACUATE SWITCH	non-alarm[1]	Y	N	Performs Drill function (Alarm Signal On for Canadian applications), activates silenceable fire outputs
FIRE CONTROL	non-alarm	N	Y	Monitors non-fire activations
NON FIRE	non-alarm	N	Y	Monitors non-fire activations
NC NON FIRE	non-alarm	N	Y	Monitors non-fire activations, where an open circuit =active.
PAS INHIBIT[2]	non-alarm	N	N	Inhibits Positive Alarm Sequence
POWER MONITR	trouble[3]	N	N	Monitors main and auxiliary power supplies (use trouble zones for activations)
RESET SWITCH	non-alarm	N	N	Performs Reset function
SIL SWITCH	non alarm	N	N	Performs Signal Silence function
TELE PAGE	non-alarm	N	Y	Performs function of page button on FFT-7. Allows remote paging to a fire area
DISABLE MON	disable	N	N	When this point activates it will create a disable on the panel for that point. No CBE generated. Modules can not be disabled via ACS, Alter Status, or over the network.
TROUBLE MON	trouble	N	N	Monitors trouble inputs (use trouble zones for activations)
Blank	fire alarm	Y	Y	Monitors for a device with no description
HEAT DETECT	fire alarm	Y	Y	Monitors for conventional heat detector
RF MON MODUL	fire alarm	Y	Y	Wireless alarm-monitoring device
RF PULL STA	fire alarm	Y	Y	Wireless manual fire-alarm-activating device
RF SUPERVSRY	supervisory	N	Y	Wireless supervisory-monitoring device
ABORT SWITCH	non-alarm	N	Y	Provides an abort function through a monitor module (connected to a UL-listed abort station) for a releasing zone. NOTE: An abort switch can only be associated with one (1) Releasing Zone.
MAN RELEASE	fire alarm[4]	Y	Y	Provides a manual release through a monitor module (connected to a UL-listed pull station) for a releasing zone
MAN REL DELAY	fire alarm[3]	Y	Y	Provides a manual release with a 10-second delay through a monitor module (connected to a UL-listed pull station) for a releasing zone
SECOND SHOT	fire alarm[3]	Y	Y	Provides a second manual release through a monitor module (connected to a UL-listed pull station) for a releasing zone
HAZARD ALRT	non-fire	N	Y	Monitors for a hazard alert
WEATHER ALRT	non-fire	N	Y	Monitors for a weather alert
PROCESS MON	critical process	Y	Y	Monitors for a critical process
PROCESS AUTO	critical process	N	Y	Monitors for a critical process
CO MONITOR	CO alarm	Y	Y	Monitors conventional CO detectors for a CO alarm condition.
ECS/MN MONITOR	alarm	Y	Y	Monitors mass notification devices for alarm activation.
ECS/MN SUPT	supervisory	N	Y	Tracking supervisory monitor for mass notification devices.
ECS.MN SUPL	supervisory	Y	Y	Latching supervisory monitor for mass notification devices.
ECS/MN TROUBLE MON	trouble	N	Y	Trouble monitor for mass notification devices.
RF GATEWAY	non-alarm	N	Y	Provides communication between wireless devices and the fire panel.
ALARM TRACK[5]	alarm	N	Y	This unit must be installed in accordance with the following requirements: Monitor modules located with the protected premises which are responsible for supervising the state of the protected premises control unit may be programmed for Tracking (non-latching) operation. The supervised protected premises control unit shall be responsible for all notification and evacuation.

Table 6 Type Codes for Monitor Modules (2 of 2)

1 Local Mode treats this point as a fire alarm point.
2 For proper PAS operation, a CGW-MB may not be installed on the network.
3 Does not participate in Local Mode
4 Local Mode activation of NACs only. No releasing.
5 Does not activate General Alarm Zone Z0

■ Type Codes for Output Devices

The following is a list of Type Codes for SLC control module points. Select from these codes to define the type of point.

Type Code	Silenceable[1]	Switch Inhibit[1]	Walk Test [1]	SLC Output Point	Local Mode Group Point Types	Device Function
CONTROL[2]	Y	N	Y	NAC	fire	Supervised NAC
RELAY[2]	Y	N	Y	Relay	n/a	Relay output
BELL CIRCUIT	Y	N	Y	NAC	fire	Supervised NAC
STROBE CKT[2]	Y	N	Y	NAC	fire	Supervised NAC
HORN CIRCUIT[2]	Y	N	Y	NAC	fire	Supervised NAC
AUDIBLE CKT	Y	N	Y	NAC	fire	Supervised NAC
SPEAKER	Y	N	Y	NAC	fire	Supervised NAC for speaker circuits
blank[2]	Y	N	Y	NAC	n/a	Supervised NAC for undefined device
NONRESET CTL[2]	N	N	N	Relay or NAC	n/a	Supervised output, unaffected by “System Reset” command
TELEPHONE	N	N	N	Telephone	fire	Supervised Telephone circuit
CONTROL NAC	Y	N	Y	NAC	fire	Supervised NAC
ISOLATED NAC	Y	N	Y	NAC	fire	Supervised NAC for notification appliance, used with audio isolators. Activates even if there is a short on its NAC circuit. For ULC installations only.
ISOLATED SPK	Y	N	Y	NAC	fire	Supervised NAC for speaker circuits, used with audio isolators. Activates even if there is a short on its audio circuit. For ULC installations only.
GEN ALARM[2]	N	Y	Y	NAC	fire	Control Module, XPC-8, or an XP5-C (in NAC mode) configured as a Municipal Box Transmitter for NFPA 72 Auxiliary Fire Alarm Systems applications (MBT-1 required). This Type ID can also be used for general alarm activation.
GEN SUPERVIS[2]	N	Y	Y	NAC	supervisory	Control Module, XPC-8, or an XP5-C (in NAC mode) activated under any Supervisory condition (includes sprinkler type).
GEN TROUBLE[2]	N	Y	Y	NAC	trouble	Control Module, XPC-8, or an XP5-C (in NAC mode) activated under any System Trouble condition.This device will not turn ON when it is in trouble (short or open).
GENERAL PEND[2]	N	Y	Y	NAC	trouble	Control Module XPC-8 circuit, or an XP5-C (in NAC mode) that will activate upon receipt of an alarm and/or trouble condition, and remain in the ON state until all events have been ACKNOWLEDGED. This device will not turn ON when it is in trouble (short or open)
TROUBLE PEND[2]	N	Y	Y	NAC	trouble	Control Module or an XP5-C (in NAC mode) that will activate upon receipt of a trouble condition, and remain in the ON state until all troubles have been ACKNOWLEDGED. This device will not turn ON when it is in trouble (short or open).
ALARMS PEND[2]	N	Y	Y	NAC	fire	Control module or NAC for output that will activate upon receipt of an alarm condition, and remain in the alarm state until all alarms have been acknowledged.
INST RELEASE[3]	N	Y	N	NAC (SLC only)	fire	Supervised for open circuits and ground faults. Short = normal
REL. FORM C[2,3]	N	Y	N	Form-C relay (SLC only)	n/a	Directs relay outputs to perform a releasing function.
RELEASE CKT[2,3]	N	Y	N	NAC (SLC only)	n/a	Directs outputs to perform a releasing function.Supervised for open circuits and ground faults. Short = normal
REL CKT ULC[2,3]	N	Y	N	NAC (SLC only)	n/a	Directs outputs to perform a release function as required by ULC.
REL END BELL	N	Y	N	NAC	n/a	Activates NAC audio or visual device when releasing circuits shut off.
REL AUDIBLE	Y	Y	N	NAC	n/a	Activates audio or visual devices steady when releasing starts.

Table 7 SLC Control Module Type Codes (1 of 2)

FORM C RESET[2]	N	Y	N	Form-C Relay (SLC only)	n/a	Relay module used to interrupt 24V power to four-wire conventional detectors for 30 seconds upon reset. Used in conjunction with a monitor module with a conventional detector Type ID
MNS GENERAL	Y	Y	N	NAC	n/a	Activates NAC mass notification devices when an MNS event occurs
MNS STROBE	Y	Y	N	NAC	n/a	Activates strobe mass notification devices when an MNS event occurs
MNS SPEAKER	Y	Y	N	NAC	n/a	Activates speaker mass notification devices when an MNS event occurs
MNS CONTROL	Y	Y	N	NAC	n/a	Activates control module mass notification devices when an MNS event occurs
MNS RELAY	Y	Y	N	Relay	n/a	Activates relay mass notification devices when an MNS event occurs

Table 7 SLC Control Module Type Codes (2 of 2)

1 Values represent program defaults
2 With LCM-320 revision 2.0 and higher, this Type Code has external power supervision (FlashScan only). An external power-supervision relay is not required. Note that Type Codes RELAY, REL FORM C, and FORM C RESET are for use only with FRM-1 modules. Refer to the section on devices requiring external power supervision in this panel's installation manual
3 The FCM-1-REL checks for shorts with all releasing type codes.

■ FlashScan Type Codes

The following is a list of FlashScan Codes for FlashScan SLC devices. Select from these codes to define the type of point:

Label	Device/Point	Label	Device/Point
FlashScan Codes			
4-20MA	FMM-4-20	PS RELAY	ACPS RELAY
ACCLIMATE	FAPT-751, FAPT-851	RELAY	FRM-1
BEAM	FSB-200,FSB-200S	RELEASE	FCM-1-REL
IQUAD	FSC-851	RFX MON	RFX MON
CONTROL	FCM-1	RFX SMOKE	SDRF-751
HEAT	FST-751/R, FST-851/R	RFX SUP	RFX SUP
HIGH HEAT	FST-851H	TELEPHONE	FTM-1
ION	FSI-751, FSI-851	XPIQ BATTERY	XPIQ BAT MON
LASER	FSL-751	XPIQ GND FLT	XPIQ EF MON
MANUAL STATION	FSM-101 (NBG-12LX Series)	XPIQ AC	XPIQ AC MON
RF PULL STATION[1]	FW-MM	RF MONITOR[1]	FW-MM
RF GATEWAY[1]	FWSG/A	RF HEAT[1]	FWH-200FIX135,FWH-200ROR135
RF PHOTO[1]	FWD-200P	RF ACCLIMATE[1]	FWD-200ACCLIMATE
RF RELAY[1]	FW-RM	XPIQ TROUBLE	XPIQ GEN MON
MINI/DUAL MONITOR	FMM-101,FDM-1	XPIQ STROBE	XPIQ STROBE
MONITOR	FMM-1	XPIQ SPEAKER	XPIQ SPEAKER
PHOTO	FSP-751,FSD-751P/RP, FSP-851, FSD-751PL/RPL, FSH-751	XPIQ TELEPHONE	XPIQ TELEPHONE
PHOTO/HEAT	FSP-751T, FSP-851T	XPIQ MUSIC	XPIQ MUSIC
FIRE/CO	FCO-851	PS MON	PS MON
PS CONTROL	ACPS CONTROL	ZONE MONITOR	FZM-1
FAASTX	FSA-20000/A, FSA-5000/A FSA-20000P	FAAST	FSA-8000/A

Table 8 FlashScan Type Codes

1 Not listed for use with ULC applications

General Zone Programming

Selecting a general zone (Z0 through Z999) in the Point Select field of the Point Programming screen will display the following zone programming options.

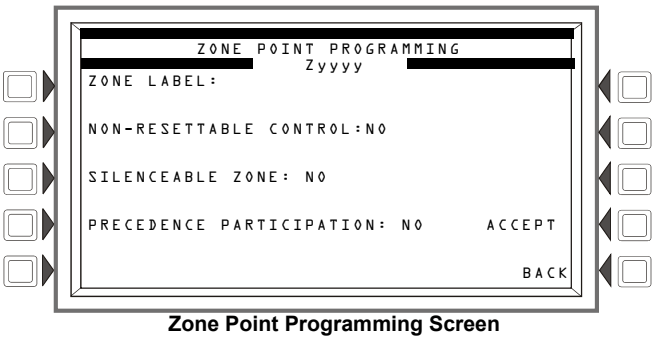
ZONE LABEL: Press to type in a 20-character maximum zone description that will appear in the zone's display messages.

NON-RESETTABLE CONTROL: Select YES to designate the zone as non-resettable (not affected by System Reset), or NO to designate the zone as resettable (zone will turn off when System Reset occurs.). Default: NO

SILENCEABLE ZONE: Designates the general zone as silenceable. When programmed as silenceable, a signal silence local to the panel or over the network will deactivate the zone and any devices mapped to it, unless those devices are programmed with another active zone that is not silenceable. Default: NO

PRECEDENCE PARTICIPATION

Must be set to YES if the zone is programmed as a control zone to an ACM or SCS device. Default: NO



Zone Point Programming Screen

Releasing Zone Programming

Selecting a releasing zone (ZR00 through ZR09) in the Point Select field of the Point Programming screen will display the following releasing zone programming options.

DELAY TIME: Press to enter a delay value from 0 to 60 (seconds). Default 00.

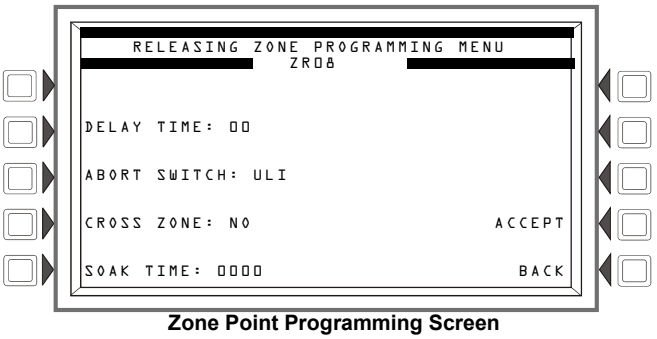
NOTE: The FCM-1-REL has an inherent two second delay, which must be factored into the DELAY TIME entry.

ABORT SWITCH: Scroll through the selection list of ULI, IRI, NYC, or AHJ. Default: ULI

CROSS ZONE: Scroll through the selection list of YES, NO, ZONE, HEAT. Default: NO

SOAK TIME: Press to type a value from 0 to 9999 (seconds). Default: 0000

NOTE: The FCM-1-REL has an inherent two second delay, which must be factored into the SOAK TIME entry.



Zone Point Programming Screen

Logic Zone Programming

Logic Zones can be used to define complex relationships between inputs and output devices via CBE programming. Equations are built using arguments and logic functions. Refer to the table below for additional information:

■ Rules to Building Logic/Trouble Equations

Equations are made up of two basic components, functions (either logic or time delay) and arguments.

Equations are entered using Point Programming for logic or trouble zones. Refer to these sections in this manual for instruction. The panel will check for errors after the user has entered the complete equation. Possible errors are too many or too few parentheses, too many or too few arguments inside the parentheses, unknown function and unknown device type.

Follow these basic rules to build logic/trouble equations.

1. Equations will always begin with a logic function. The function set is listed below.
2. Equations will be a maximum of 80 characters long, including parentheses and commas.
3. Logic and Trouble Equations can have a maximum of 10 logic functions unless a time delay function is used: a time delay function must be the only function in its equation.
4. Equations are evaluated after all other devices have been evaluated.
5. One logic equation can be used as an argument in another logic equation, or one trouble equation can be used in another trouble equation, only if the equation used has previously been evaluated; that is, only zones with a lower number than the zone currently being edited can be used as arguments.
6. A logic function can have a maximum of 20 arguments (inclusive start and stop address).
7. Maximum for the delay timer is 23 hours, 59 minutes, 59 seconds (23:59:59).
8. Mass Notification enabled systems: Logic zones must be written conditionally to ensure proper suppression. Refer to the Mass Notification manual for additional information.

Arguments:		
LxxD1 - LxxD159	detectors loop xx	(159 per loop)
LxxM1 - LxxM159	modules loop xx	(159 per loop)
(Nxxx)Z0 - (Nxxx)Z999*	general zones	(1000)
ZF1 - ZF7, ZF9 - ZF22, ZF36 - ZF40	special zones	(27)
T0 - T510	system troubles (trouble equations only)	(511)
(Nxxx)ZT001 - (Nxxx)ZT100	trouble zones	(100)
(Nxxx)ZL1 - (Nxxx)ZL1000	logic zones	(1000)
xx = loop number (01 through 10) (Nxxx) = Node number, necessary for CCBE programming. The node number identifies what node the panel will watch for a particular zone activation.		

Logic Functions:

“AND” Operator	Requires that each argument be active. Example: AND(Z02,Z05,L2D12) All three arguments in the equation must be active for the logic zone to be activated.
“OR” Operator	Requires that any argument be active. Example: OR(Z02,Z05,L2D12) If any one of the three arguments in the equation is active the logic zone will be activated.
“NOT” Operator	Inverts the state of the argument (activated to deactivated OR deactivated to activated). Example: NOT(Z02) The logic zone will remain activated until the argument activates. If the argument activates the logic zone will deactivate.
“ONLY1” Operator	Requires that only one argument be active. Example: ONLY1(Z02,Z05,Z09) If only one of the arguments activates the logic zone will be activated.
“ANYX” Operator	Requires that the amount of arguments specified by the number preceding the arguments be active. Example: ANYX(2,Z02,Z05,Z09) If any two or more of the arguments are in alarm the output point will be activated. The X amount may be a value from 1 through 9.
“XZONE” Operator	Requires that any combination of two or more input devices programmed to a zone be active. (Local General Zones only) Example: XZONE(Z02) If any combination of two or more initiating devices that have been mapped to this software zone come into alarm, then outputs mapped to this zone will activate.
“RANGE” Operator	Each argument within the range must conform to the requirements of the governing function. The range limit is 20 consecutive arguments. Example: AND(RANGE(Z1,Z20)) Zone 1 through Zone 20 must all be active to activate the logic zone.
“DIS(point argument)” Operator	Requires that the point argument be disabled for the operator to go active.
“PRE(point argument)” Operator	Requires that the point argument be in prealarm for the operator to go active. Example: AND(L1D1,PRE(L1D2)) The detector at address L1D1 must be active and the detector at L1D2 must be in prealarm for this equation to go active.
“SUP(point argument)” Operator	Requires that the point argument be in an active supervisory state for the operator to go active. Example: OR(L1D1,SUP(L1M1)) The detector at address L1D1 must be active, or the module at L1M1 must be in an active supervisory state, for the equation to go active.
“FIRE(point argument)” Operator	Requires that the point argument be in an active fire alarm state for the operator to go active. Example: AND(L1D1,FIRE(L1M1),FIRE(L1M2)) The detector at address L1D1 must be active, and the modules at L1M1 and L1M2 must be in an active fire alarm state, for the equation to go active.
“NON(point argument)” Operator	Requires that the point argument be in an active non-alarm state for the operator to go active. Example: AND(L1D1,NON(L1M1)) The detector at address L1D1 must be active, and the module at address L1M1 must be in an active non-fire alarm state, for the equation to go active.
“SEC(point argument)” Operator	Requires that the point argument be in an active security alarm state for the operator to go active. Example: AND(L1M1,SEC(L1M2)) The module at address L1M1 must be active, and the module at address L1M2 must be in an active security alarm state, for the equation to go active.
“AUTO(point argument)” Operator*	This operator will evaluate as “Active” if all of the SCS switches or specified switch group are in the “Auto” position. When the SCS-8L/SCE-8L is disabled, the evaluation will be based on the switch position prior to the disable. Examples: **OR(AUTO(A1G16))** The switch associated with switch group 16 on Annunciator 1 must be set as “Auto” for the equation to go active. **OR(AUTO(A1))** All the switches of Annunciator 1 must be set to “Auto” for the equation to go active.
“NORM(point argument)” Operator*	This operator will evaluate as “Active” if the entire SCS device or a specified switch group is in a normal state. Examples: **OR(NORM(A1G16))** The switch associated with switch group 16 on Annunciator 1 must be in the “normal” state for the equation to go active. **OR(NORM(A1)** All switches on Annunciator 1 must be in the “normal” state for the equation to go active.
“SCSDIS(point argument)” Operator*	For use with the SCS-8L only. This operator will evaluate as “Active” if the keyswitch on the specified SCS device is in the disabled position. Example: **OR(SCSDIS(A25))** If the keyswitch on annunciator 25 is disabled, this equation will go active.

*For use with local SCS installations.

■ Time-Based Functions:

When programming time-based logic equations, the following rules apply.

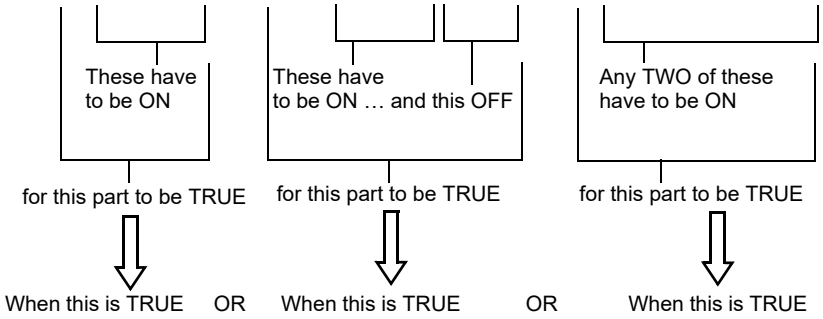
- Only one time-based function may be used in an equation.
- The time-based function must appear only once, as the first entry of the equation.
- It may not be nested within parentheses in the equation.
- Logic functions may be used in an equation that begins with a DEL or SDEL time-based function: however, they must appear within parentheses following the time-based function.

"DEL" Function	Used for delayed operation. Example: **DEL(HH.MM.SS, HH.MM.SS,AND(L1M1,L1M140))** The first HH.MM.SS is the delay time, the second HH.MM.SS is the duration time. If the argument - AND(L1M1,L1M140) - in the example above activates, the function becomes true after the argument has been active for the delay time, and continues to be true for the duration time as long as the argument stays active. If the argument goes inactive during the delay time or the duration time, the function reverts to false and the timing would begin all over again if reactivated. If duration time of zero is entered (00.00.00), the equation will evaluate true when the delay time expires if the argument remains active throughout the delay time period. If no duration or delay is specified, then the function will follow the input argument, indicating true while it is active and false when it is inactive. DEL assumes a value of false on reset.
"SDEL" Function	A latched version of the DEL function. Example: **SDEL(HH.MM.SS, HH.MM.SS,L1M140)** The first HH.MM.SS is the delay time, the second HH.MM.SS is the duration time. If the argument (L1M140 in the example above) activates, the function becomes true after the delay time, and will remain active for the duration even if the argument becomes inactive during either the delay or duration time. If delay time of zero is entered (00.00.00), the equation will evaluate true as soon as the argument (L1M140) activates and will remain that way for the specified duration, even if the argument becomes inactive during that time. If no duration or delay time is specified, then the argument will not deactivate until reset, even if the argument becomes inactive.
"TIM" Function	The TIM function is used to specify activation on specific days of the week or year. Examples: **TIM(7-11-06)** will evaluate as true for 24 hours starting at midnight (00:00:00) on July 11, 2006. **TIM(MO,TU,WE,TH,FR,08:00:00,23:00:00)** will evaluate as true at 8:00 AM and remain true until 11:00 PM (23:00) for the list of days supplied. **TIM(MO,TU,WE,TH,FR,08:00:00)** will evaluate as true at 8:00 AM and remain true until 23:59:59 of the current day for the list of days supplied. **TIM(TU,07:45:00,18:30:00)** will evaluate as true every Tuesday between 7:45 AM until 6:30 PM. **TIM(MO,TU,WE,TH,FR)** will evaluate as true from Monday morning at 12:01 AM until Friday evening at 11:59:00 PM.

■ Evaluating an Equation

To evaluate an equation, start from the innermost part of the equation and work outwards. For this equation to evaluate TRUE and thus turn on any output mapped to it, the following conditions must be met:

OR(AND(L1D1,L1D4),AND(L2D6,L2M3,NOT(L2M4)),ANYX(2,L1M13,L1M14,L1M15))



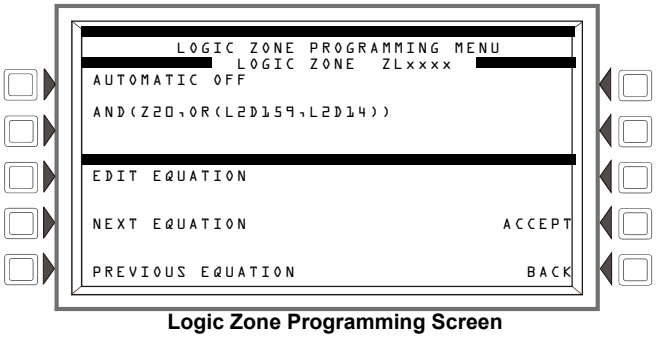
Then all outputs programmed with this equation will be turned ON.

Selecting a logic zone (ZL1 through ZL1000) in the Point Select of the Point Programming screen will display the following logic zone programming options:

Lines 4 through 6 of the Logic Zone Programming menu displays the state of the logic zone (AUTOMATIC ON/OFF) and the current logic equation. If no equation has been programmed at this address, these lines will be blank.

EDIT EQUATION: Displays the logic zone edit screen.

NEXT/PREVIOUS EQUATION: Press to view the next or previous logic equation.



Logic Zone Programming Screen

■ Editing a Logic Equation

Pressing the EDIT EQUATION key will allow the programmer to modify/create a logic equation.

The cursor will be present in the equation, and can be moved by pressing the left/right arrow keys on the keyboard.

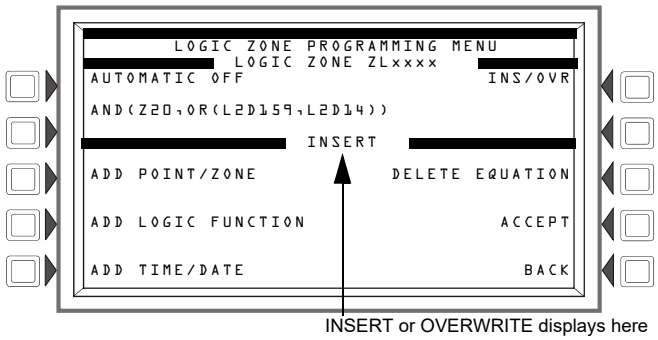
INS/OVR: Toggle between insert and overwrite. Stop at the appropriate mode, which displays in line 8 of the screen. Insert will add information to the equation. Overwrite will write over information already in the equation.

ADD POINT/ZONE: Proceed to the Add Point/Zone screen. This is an alternative to typing in the information at this screen; it provides point and zone formats that make it less likely for typographical errors to occur.

ADD LOGIC FUNCTION: Proceed to the Add Logic Function screen. This is an alternative to typing in the information at this screen; it provides logic function formats that make it less likely for typographical errors to occur.

ADD TIME/DATE: Proceed to the Add Time/Date screen.

DELETE EQUATION: Press to delete the entire equation.

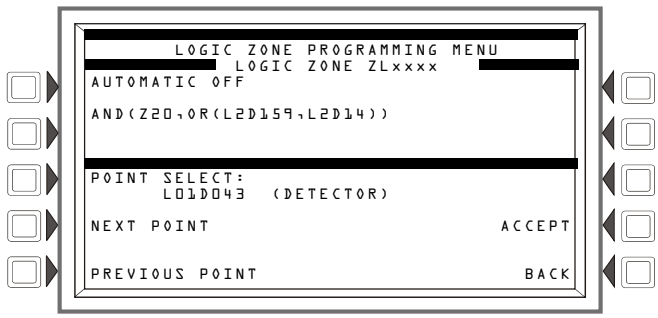


Edit Logic Zone Screen

To add a point or zone to the equation, move the cursor to the place in the equation that the point or zone is to be added. Press the ADD POINT/ZONE key. The Add Logic/Zone screen is displayed:

POINT SELECT: Scroll through the list of possible formats (detector, module, etc.). Stop at the desired format. Type in the address for the additional point.

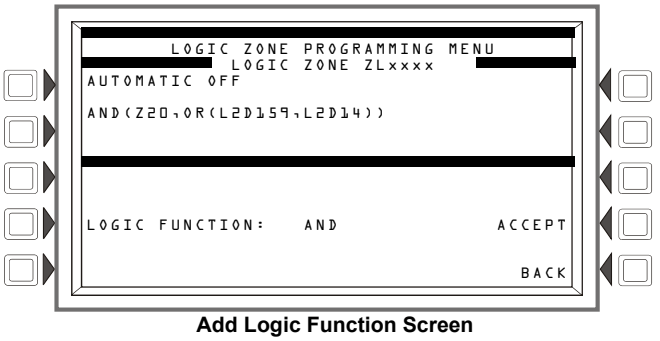
NEXT/PREVIOUS POINT: Press these soft keys to scroll forward or backward from the displayed point to the next installed point.



Add Logic Point/Zone Screen

To add a logic function to the equation, move the cursor to the place in the equation that the logic function is to be added. Press the ADD LOGIC FUNCTION key. The Add Logic Function screen is displayed.

LOGIC FUNCTION: Scroll through the list of possible logic functions.

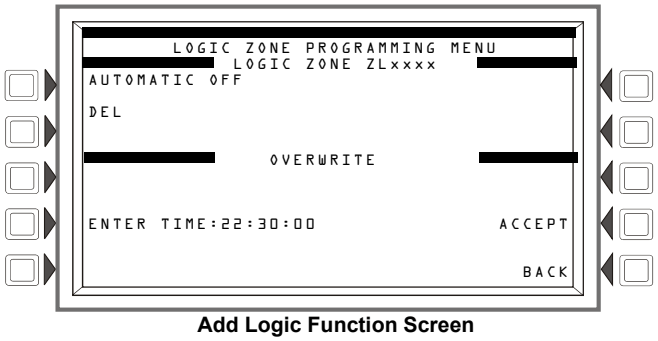


Add Logic Function Screen

To add date and time to the equation, move the cursor to the place in the equation that the date/time function is to be added. Press the ADD TIME/DATE key. The Add Time/Date screen is displayed.

ENTER TIME:_ _:_ _:_ _: Toggle between the time/date formats. Choose one based on the type of time-based function used.

Time-based function	Screen Field	Time/date format
DEL, SDEL, TIM	ENTER TIME:_ _:_ _:_ _	HH:MM:SS, entered as military time (22:30:00 = 10:30 P.M.)
TIM	ENTER DATE:_ _-_ _-_ _	(MM-DD-YY)
TIM	ENTER DAY: MO	(Use the TOGGLE DAY soft key that appears to scroll through and choose a day of the week.



Add Logic Function Screen

Trouble Zone Programming

Selecting a trouble zone (ZT001 through ZT100) in the Point Select of the Point Programming screen allows for a trouble equation to be written. Programming options for the trouble zone are the same as a logic zone. In additions to basic point or zone variables, the programmer can add node offline troubles to the equation. Place the cursor in the desired position and use the format "NO###", where "###" equals the network node number to be monitored for offline status. `POINT SELECT` can not be used for this option.

■ System Troubles

The following table lists possible System Troubles that can be used in Logic Equation/Trouble Zone programming. The System Trouble index number can be used as an argument in equation building.

System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name
0	GROUND FAULT	1	AC FAIL	2	BATTERY	3	CLASS A POS LOOP 1
4	CLASS A POS LOOP 2	5	CORRUPT LOGIC EQUAT	6	LCD80 SUPERVISORY	7	EPROM ERROR
8	INTERNAL RAM ERROR	9	EXTERNAL RAM ERROR	10	PROGRAM CORRUPTED	11	NO DEV INST ON L1
12	PANEL DOOR OPEN	13	AUXILIARY TROUBLE	14	RESERVED	15	ANNUN 1 TROUBLE
16	ANNUN 1 NO ANSWER	17	ANNUN 2 TROUBLE	18	ANNUN 2 NO ANSWER	19	ANNUN 3 TROUBLE
20	ANNUN 3 NO ANSWER	21	ANNUN 4 TROUBLE	22	ANNUN 4 NO ANSWER	23	ANNUN 5 TROUBLE
24	ANNUN 5 NO ANSWER	25	ANNUN 6 TROUBLE	26	ANNUN 6 NO ANSWER	27	ANNUN 7 TROUBLE
28	ANNUN 7 NO ANSWER	29	ANNUN 8 TROUBLE	30	ANNUN 8 NO ANSWER	31	ANNUN 9 TROUBLE
32	ANNUN 9 NO ANSWER	33	ANNUN 10 TROUBLE	34	ANNUN 10 NO ANSWER	35	ANNUN 11 TROUBLE
36	ANNUN 11 NO ANSWER	37	ANNUN 12 TROUBLE	38	ANNUN 12 NO ANSWER	39	ANNUN 13 TROUBLE
40	ANNUN 13 NO ANSWER	41	ANNUN 14 TROUBLE	42	ANNUN 14 NO ANSWER	43	ANNUN 15 TROUBLE
44	ANNUN 15 NO ANSWER	45	ANNUN 16 TROUBLE	46	ANNUN 16 NO ANSWER	47	ANNUN 17 TROUBLE
48	ANNUN 17 NO ANSWER	49	ANNUN 18 TROUBLE	50	ANNUN 18 NO ANSWER	51	ANNUN 19 TROUBLE
52	ANNUN 19 NO ANSWER	53	ANNUN 20 TROUBLE	54	ANNUN 20 NO ANSWER	55	ANNUN 21 TROUBLE
56	ANNUN 21 NO ANSWER	57	ANNUN 22 TROUBLE	58	ANNUN 22 NO ANSWER	59	ANNUN 23 TROUBLE
60	ANNUN 23 NO ANSWER	61	ANNUN 24 TROUBLE	62	ANNUN 24 NO ANSWER	63	ANNUN 25 TROUBLE
64	ANNUN 25 NO ANSWER	65	ANNUN 26 TROUBLE	66	ANNUN 26 NO ANSWER	67	ANNUN 27 TROUBLE
68	ANNUN 27 NO ANSWER	69	ANNUN 28 TROUBLE	70	ANNUN 28 NO ANSWER	71	ANNUN 29 TROUBLE
72	ANNUN 29 NO ANSWER	73	ANNUN 30 TROUBLE	74	ANNUN 30 NO ANSWER	75	ANNUN 31 TROUBLE
76	ANNUN 31 NO ANSWER	77	ANNUN 32 TROUBLE	78	ANNUN 32 NO ANSWER	79	NETWORK FAIL PORT A
80	NETWORK FAIL PORT B	81	NETWORK FAILURE	82	ADV WALK TEST	83	CHARGER FAIL
84	GROUND FAULT LOOP 2	85	CLASS A NEG LOOP 1	86	CLASS A NEG LOOP 2	87	GROUND FAULT LOOP 1
88	RESERVED	89	RESERVED	90	PROG MODE ACTIVATED	91	LOADING...NO SERVICE
92	BASIC WALK TEST	93	NFPA 24HR REMINDER	94	NVRAM BATT TROUBLE	95	RESERVED
96	RESERVED	97	RESERVED	98	RESERVED	99	RESERVED
100	RESERVED	101	RESERVED	102	RESERVED	103	RESERVED
104	RESERVED	105	CLASS A ON LOOP 3	106	RESERVED	107	RESERVED
108	MAN EVAC INITIATED	109	MAN EVAC RECEIVED	110	RESERVED	111	RESERVED
112	RESERVED	113-175	RESERVED	176	GROUND FAULT LOOP 3	177	GROUND FAULT LOOP 4
178	GROUND FAULT LOOP 5	179	GROUND FAULT LOOP 6	180	GROUND FAULT LOOP 7	181	GROUND FAULT LOOP 8
182	GROUND FAULT LOOP 9	183	GROUND FAULT LOOP 10	184	CLASS A NEG LOOP 3	185	CLASS A NEG LOOP 4
186	CLASS A NEG LOOP 5	187	CLASS A NEG LOOP 6	188	CLASS A NEG LOOP 7	189	CLASS A NEG LOOP 8
190	CLASS A NEG LOOP 9	191	CLASS A NEG LOOP 10	192	CLASS A POS LOOP 3	193	CLASS A POS LOOP 4
194	CLASS A POS LOOP 5	195	CLASS A POS LOOP 6	196	CLASS A POS LOOP 7	197	CLASS A POS LOOP 8
198	CLASS A POS LOOP 9	199	CLASS A POS LOOP 10	200	RESERVED	201	BUZZER OFF-LINE
202	RESERVED	203	RESERVED	204	RESERVED	205	RESERVED
206	PRINTER PAPER OUT	207	PRINTER OFF LINE	208	RESERVED	209	RESERVED
210	MANUAL MODE ENTERED	211	NCM COMM FAILURE	212	CLASS B SHORT A LOOP 1	213	CLASS B SHORT B LOOP 1
214	CLASS B SHORT A LOOP 2	215	CLASS B SHORT B LOOP 2	216	CLASS B SHORT A LOOP 3	217	CLASS B SHORT B LOOP 3
218	CLASS B SHORT A LOOP 4	219	CLASS B SHORT B LOOP 4	220	CLASS B SHORT A LOOP 5	221	CLASS B SHORT B LOOP 5
222	CLASS B SHORT A LOOP 6	223	CLASS B SHORT B LOOP 6	224	CLASS B SHORT A LOOP 7	225	CLASS B SHORT B LOOP 7
226	CLASS B SHORT A LOOP 8	227	CLASS B SHORT B LOOP 8	228	CLASS B SHORT A LOOP 9	229	CLASS B SHORT B LOOP 9
230	CLASS B SHORT A LOOP 10	231	CLASS B SHORT B LOOP 10	232	RESERVED	233	CLASS A SHORT LOOP 1
234	CLASS A SHORT LOOP 2	235	CLASS A SHORT LOOP 3	236	CLASS A SHORT LOOP 4	237	CLASS A SHORT LOOP 5
238	CLASS A SHORT LOOP 6	239	CLASS A SHORT LOOP 7	240	CLASS A SHORT LOOP 8	241	CLASS A SHORT LOOP 9
242	CLASS A SHORT LOOP 10	243	NCM COM FAILURE	244	RESERVED	245	RESERVED
246	RESERVED	247	RESERVED	248	RESERVED	249	RESERVED
250	SELF TEST FAILED	251	NETWORK INCOMPATIBILITY	252	RESERVED	253	NETWORK MAP LIMIT EXCEEDED
254	INVALID NODE TYPE	255	DISPLAY NODE LIMIT EXCEEDED	256-383	RESERVED	384	REMOTE DISPLAY 1 TROUBLE

Table 9 System Trouble Names and Codes

System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name
385	REMOTE DISPLAY 1 NO ANSWER	386	REMOTE DISPLAY 2 TROUBLE	387	REMOTE DISPLAY 2 NO ANSWER	388	REMOTE DISPLAY 3 TROUBLE
389	REMOTE DISPLAY 3 NO ANSWER	390	REMOTE DISPLAY 4 TROUBLE	391	REMOTE DISPLAY 4 NO ANSWER	392	REMOTE DISPLAY 5 TROUBLE
393	REMOTE DISPLAY 5 NO ANSWER	394	REMOTE DISPLAY 6 TROUBLE	395	REMOTE DISPLAY 6 NO ANSWER	396	REMOTE DISPLAY 7 TROUBLE
397	REMOTE DISPLAY 7 NO ANSWER	398	REMOTE DISPLAY 8 TROUBLE	399	REMOTE DISPLAY 8 NO ANSWER	400	REMOTE DISPLAY 9 TROUBLE
401	REMOTE DISPLAY 9 NO ANSWER	402	REMOTE DISPLAY 10 TROUBLE	403	REMOTE DISPLAY 10 NO ANSWER	404	REMOTE DISPLAY 11 TROUBLE
405	REMOTE DISPLAY 11 NO ANSWER	406	REMOTE DISPLAY 12 TROUBLE	407	REMOTE DISPLAY 12 NO ANSWER	408	REMOTE DISPLAY 13 TROUBLE
409	REMOTE DISPLAY 13 NO ANSWER	410	REMOTE DISPLAY 14 TROUBLE	411	REMOTE DISPLAY 14 NO ANSWER	412	REMOTE DISPLAY 15 TROUBLE
413	REMOTE DISPLAY 15 NO ANSWER	414	REMOTE DISPLAY 16 TROUBLE	415	REMOTE DISPLAY 16 NO ANSWER	416	REMOTE DISPLAY 17 TROUBLE
417	REMOTE DISPLAY 17 NO ANSWER	418	REMOTE DISPLAY 18 TROUBLE	419	REMOTE DISPLAY 18 NO ANSWER	420	REMOTE DISPLAY 19 TROUBLE
421	REMOTE DISPLAY 19 NO ANSWER	422	REMOTE DISPLAY 20 TROUBLE	423	REMOTE DISPLAY 20 NO ANSWER	424	REMOTE DISPLAY 21 TROUBLE
425	REMOTE DISPLAY 21 NO ANSWER	426	REMOTE DISPLAY 22 TROUBLE	427	REMOTE DISPLAY 22 NO ANSWER	428	REMOTE DISPLAY 23 TROUBLE
429	REMOTE DISPLAY 23 NO ANSWER	430	REMOTE DISPLAY 24 TROUBLE	431	REMOTE DISPLAY 24 NO ANSWER	432	REMOTE DISPLAY 25 TROUBLE
433	REMOTE DISPLAY 25 NO ANSWER	434	REMOTE DISPLAY 26 TROUBLE	435	REMOTE DISPLAY 26 NO ANSWER	436	REMOTE DISPLAY 27 TROUBLE
437	REMOTE DISPLAY 27 NO ANSWER	438	REMOTE DISPLAY 28 TROUBLE	439	REMOTE DISPLAY 28 NO ANSWER	440	REMOTE DISPLAY 29 TROUBLE
441	REMOTE DISPLAY 29 NO ANSWER	442	REMOTE DISPLAY 30 TROUBLE	443	REMOTE DISPLAY 30 NO ANSWER	444	REMOTE DISPLAY 31 TROUBLE
445	REMOTE DISPLAY 31 NO ANSWER	446	REMOTE DISPLAY 32 TROUBLE	447	REMOTE DISPLAY 32 NO ANSWER	448	SYSTEM INITIALIZATION
449-502	RESERVED	503	SOFTWARE MISMATCH	504	NO POWER SUPPLY INST	505	LOOP 1-2 COMM FAILURE
506	LOOP 3-4 COMM FAILURE	507	LOOP 5-6 COMM FAILURE	508	LOOP 7-8 COMM FAILURE	509	LOOP 9-10 COMM FAILURE
510	TEST PROGRAM UPDATE	511	RESERVED	512	RESERVED	513	RESERVED
514	RESERVED	515	RESERVED	516	RESERVED	517	RESERVED
518	RESERVED	519	RESERVED	520	RESERVED	521	RESERVED
522	RESERVED	523	RESERVED	524	RESERVED	525	RESERVED
526	RESERVED	527	RESERVED	528	RESERVED	529	RESERVED
530	RESERVED	531	RESERVED	532	RESERVED	533	RESERVED
534	RESERVED	535	RESERVED	536	RESERVED	537	RESERVED
538	RESERVED	539	RESERVED	540	RESERVED	541	RESERVED
542	RESERVED	543	RESERVED	544	RESERVED	545	RESERVED
546	RESERVED	547	RESERVED	548	RESERVED	549	RESERVED
550	RESERVED	551	RESERVED	552	RESERVED	553	RESERVED
554	RESERVED	555	RESERVED	556	RESERVED	557	RESERVED
558	RESERVED	559	RESERVED	560	RESERVED	561	RESERVED
562	RESERVED	563	RESERVED	564	RESERVED	565	RESERVED
566	RESERVED	567	RESERVED	568	RESERVED	569	RESERVED
570	RESERVED	571	RESERVED	572	GROUND FAULT PORT A	573	GROUND FAULT PORT B
574	AMPLIFIER TROUBLE	575	AUXIN TROUBLE	576	DIGIN TROUBLE	577	FFT TROUBLE
578	REMOTE MIC TROUBLE	579	DAP PORT A FAILURE	580	DAP PORT B FAILURE	581	DAA NO ANSWER
582	LOCAL MIC TROUBLE	583	LOCAL PHONE TROUBLE	584	ANALOG OUTPUT A TROUBLE	585	ANALOG OUTPUT B TROUBLE
586	ANALOG OUTPUT C TROUBLE	587	ANALOG OUTPUT D TROUBLE	588	FLASH IMAGE ERROR	589	POWER SUPPLY TROUBLE
590	AMPLIFIER LIMIT	591	AMPLIFIER SUPERVISION	592	DAA ADDRESS CONFLICT	593	RESERVED
594 - 603	RESERVED	604	DATABASE CORRUPTED	605	AUDIO LIBRARY CORRUPTED	606	DATABASE INCOMPATIBLE
607	AUDIO LIBRARY INCOMPATIBLE	608	DAA DOWNLOAD IN PROGRESS	609	RESERVED	610	RESERVED
611	PHONE CHANNEL LIMIT EXCEEDED	612	NCM SNIFFER MODE ACTIVE	613	NCM CONNECTION LIMIT EXCEEDED	614	HARDWARE MISMATCH
615	DAL DEVICE NO ANSWER	616	PRIMARY AMP 1 HARDWARE FAILURE	617	PRIMARY AMP 2 HARDWARE FAILURE	618	PRIMARY AMP 3 HARDWARE FAILURE

Table 9 System Trouble Names and Codes (Continued)

System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name	System Trouble Index	System Trouble Name
619	PRIMARY AMP 4 HARDWARE FAILURE	620	BACKUP AMP 1 HARDWARE FAILURE	621	BACKUP AMP 2 HARDWARE FAILURE	622	BACKUP AMP 3 HARDWARE FAILURE
623	BACKUP AMP 4 HARDWARE FAILURE	624	DSBUS 1 COMMFAIL	625	DSBUS 2 COMMFAIL	626	DSBUS 3 COMMFAIL
627	DSBUS 4 COMMFAIL	628	AA TROUBLE BUS FAIL	629	NFN PAGING CHANNEL LIMIT EXCEEDED	630	BACKUP AMP LIMIT
631	PRIMARY AMP 1 LIMIT	632	PRIMARY AMP 2 LIMIT	633	PRIMARY AMP 3 LIMIT	634	PRIMARY AMP 4 LIMIT
635	BACKUP AMP 1 LIMIT	636	BACKUP AMP 2 LIMIT	637	BACKUP AMP 3 LIMIT	638	BACKUP AMP 4 LIMIT
639	PRIMARY AMP 1 OVERCURRENT	640	PRIMARY AMP 2 OVERCURRENT	641	PRIMARY AMP 3 OVERCURRENT	642	PRIMARY AMP 4 OVERCURRENT
643	BACKUP AMP 1 OVERCURRENT	644	BACKUP AMP 2 OVERCURRENT	645	BACKUP AMP 3 OVERCURRENT	646	BACKUP AMP 4 OVERCURRENT
647	PRIMARY AMP 1 TRIP	648	PRIMARY AMP 2 TRIP	649	PRIMARY AMP 3 TRIP	650	PRIMARY AMP 4 TRIP
651	BACKUP AMP 1 TRIP	652	BACKUP AMP 2 TRIP	653	BACKUP AMP 3 TRIP	654	BACKUP AMP 4 TRIP
655	DSBUS 1 AC FAIL	656	DSBUS 2 AC FAIL	657	DSBUS 3 AC FAIL	658	DSBUS 4 AC FAIL
659	DSBUS 1 HIGH BATT	660	DSBUS 2 HIGH BATT	661	DSBUS 3 HIGH BATT	662	DSBUS 4 HIGH BATT
663	DSBUS 1 LOW BATT	664	DSBUS 2 LOW BATT	665	DSBUS 3 LOW BATT	666	DSBUS 4 LOW BATT
667	DSBUS 1 SELF TEST FAIL	668	DSBUS 2 SELF TEST FAIL	669	DSBUS 3 SELF TEST FAIL	670	DSBUS 4 SELF TEST FAIL
671	PRIMARY AMP 1 FAIL	672	PRIMARY AMP 2 FAIL	673	PRIMARY AMP 3 FAIL	674	PRIMARY AMP 4 FAIL
675	BACKUP AMP 1 FAIL	676	BACKUP AMP 2 FAIL	677	BACKUP AMP 3 FAIL	678	BACKUP AMP 4 FAIL
679	BACKUP AMP NOT INSTALLED	680	BACKUP AMP 1 NOT INSTALLED	681	BACKUP AMP 2 NOT INSTALLED	682	BACKUP AMP 3 NOT INSTALLED
683	BACKUP AMP 4 NOT INSTALLED	684	MODBUS COMMUNICATIONS FAULT	685	VESDANET TROUBLE	686-724	RESERVED
725	ALARM SIGNAL						

Table 9 System Trouble Names and Codes (Continued)

ACS Board Label

Selecting an ACS Board in the Point Select of the Point Programming screen will display ACS Label Menu:

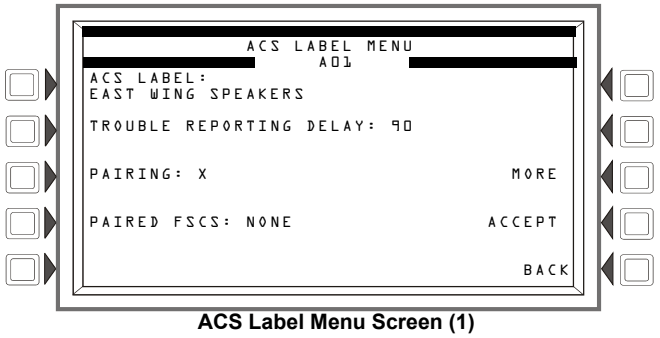
ACS LABEL: Type a label for the selected annunciator. The label can have up to 40 characters.

TROUBLE REPORTING DELAY: Smoke Control Systems only: Adjustable trouble timer for FSCS. Programmable range is 0 to 180 seconds. Default: 90.

NOTE: This value may not exceed 90 seconds for ULC installations.

PAIRING: Smoke Control Systems only: Select group 1, 2 or 3 to pair up to eight (8) FSCS boards so that multiple smoke control modules can act as a single unit. If enabled, each FSCS address can only be assigned to one group and each group can be assigned up to eight (8) FSCS addresses. Default: X

PAIRED FSCS: Smoke Control Systems only: Displays any FSCS boards that have been paired to this annunciator.



ACS Label Menu Screen (1)

MORE: Smoke Control Systems only: Press to display the second ACS label screen.

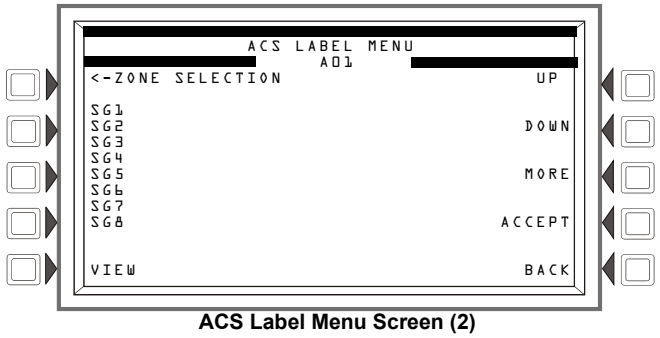
To assign a label to a switch group, modify the zone's label via Point Programming (refer to page 43) and assign that zone to the desired switch group.

ZONE SELECTION: Press to assign the zone label that is to be displayed for the switch group selected.

VIEW: Press to view the associated zone label for the switch group selected.

UP/DOWN: Press to move between switch group selections.

MORE: Press to display the third ACS label screen.

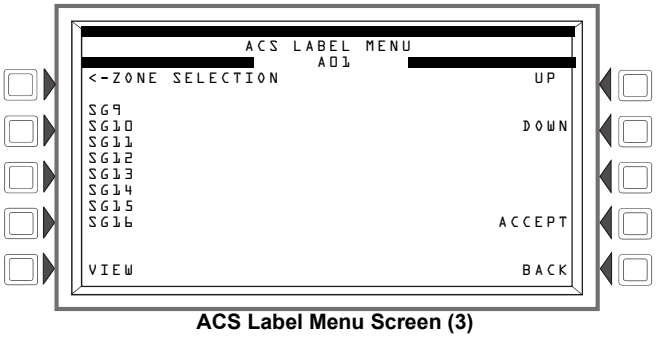


ACS Label Menu Screen (2)

ZONE SELECTION: Press to assign the zone label that is to be displayed for the switch group selected.

VIEW: Press to view the associated zone label for the switch group selected.

UP/DOWN: Press to move between switch group selections.



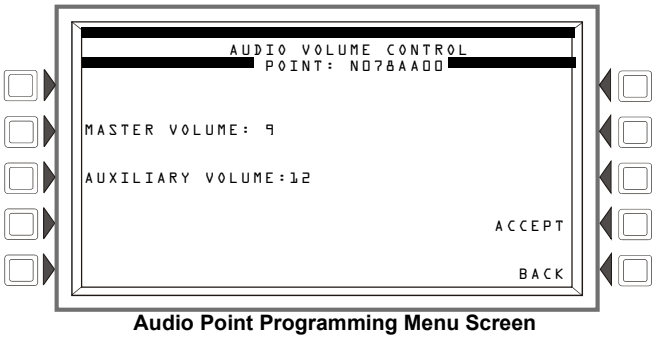
ACS Label Menu Screen (3)

Audio Point Programming

Selecting a DVC or a DAL device address from the Point Program menu, the Audio Volume Control menu appears.

MASTER VOLUME: Set the volume for all audio outputs at the DVC node. When the audio amplifier point (AA) is set to 00, the setting affects all audio outputs on the DVC node (this includes all outputs on its DAL devices). If a specific DAL device address point is entered at the point program menu (for example, N078AA01), the MASTER VOLUME setting will apply to the audio outputs at that digital audio amplifier (the digital audio address with its address set to 01). Set this field to any volume setting from 0 (off) to 15 (high). Default: 15

AUXILIARY VOLUME: Sets the volume for DVC inputs AUXA (background music from various sources or a telephone paging source) and AUXB (AMG-1 input). The field does not appear if a specific DAL device address has been entered. The DAL devices with AUX A and AUX B inputs have onboard volume control. Set this field to any volume setting from 0 (off) to 15 (high). Default: 15.



Audio Point Programming Menu Screen

4.3.4 Delete Programming

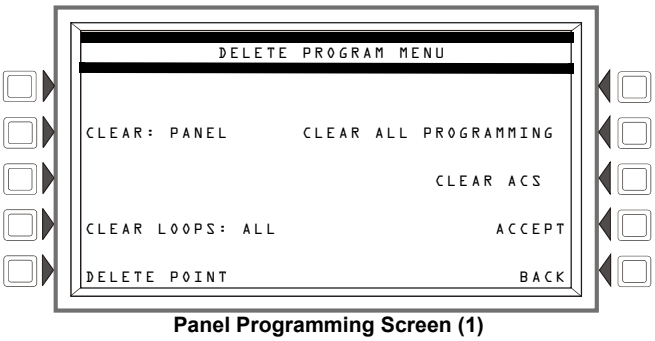
The Delete Program Menu allows the programmer to clear some or all of the fire panel's programming.

CLEAR PANEL: Remove all programmed panel setting information from control panel memory. This does not remove ACS programming. A confirmation screen will display asking the user to confirm the deletion command. Confirmation causes a reboot.

CLEAR LOOPS: Scroll through the options: ALL, LOOP 1, LOOP 2, … LOOP 10. Stop at the desired option. Press ACCEPT to delete all loop programming for the selected option. This will cause a reboot.

DELETE POINT: Displays the Point Select screen to select a specific point to delete.

CLEAR ALL PROGRAMMING: Remove all panel, loop, point and ACS programming information, as well as logic and trouble zone equations. This key removes everything except passwords. A confirmation screen will display asking the user to confirm the deletion command. Confirmation causes a reboot.



Panel Programming Screen (1)

CLEAR ACS: Remove all ACS programming from panel memory. A confirmation screen will display asking the user to confirm the deletion command. Confirmation causes a reboot.

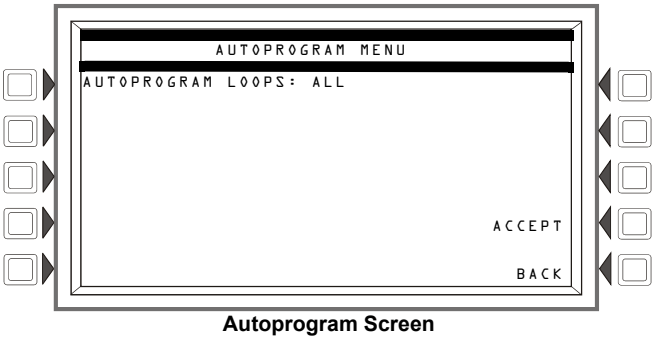
4.3.5 Autoprogram

Autoprogram will identify addressable devices installed on the SLC loops programmed into the fire panel.

For a new system or a system with programming that has been cleared, autoprogram can be used to create a new database. Program the loops currently on the panel (Refer to "Loop Configuration" on page 42). Perform an autoprogram to program the devices on the loops.

Autoprogram can also be used to add or delete device from existing programming. Install or remove the device from the system and perform an autoprogram on the loop(s). A screen will be displayed confirming your addition/removal. Refer to Section 4.3.3, "Point Programming", on page 43.

AUTOPROGRAM LOOPS: Press to scroll through the options: ALL, 1+2, 3+4, 5+6, 7+8, 9+10. Stop at the desired option to select it.



Autoprogram Screen

Zones

The following is a list of available zone types for CBE (Control-By-Event) and Zone Map programming when programming devices.

Zone Type	Description/Function	
General Zone	A general zone is used to link input and output devices. When an input device activates, any general zone in its zone map will be active, and any output device that has an active general zone in its map will be active. General zones can be used as arguments in logic equations. Zone Z000 is a general alarm zone: those points listing Z000 in their zone map participate in a general alarm. The panel will support up to 1000 general zones, designated as Z0 through Z999. General zones can be used in CCBE applications when a node number is entered before the zone number.	
Logic Zone	A logic zone consists of a logic equation. Whenever the logic equation becomes true, all output points mapped to the logic zone will activate. The panel will support up to 1000 logic zones, designated as ZL1 through ZL1000. Logic zones can be used in CCBE applications when a node number is entered before the zone number. Note:	
Trouble Zone	A trouble zone consists of a trouble equation. Whenever the trouble equation becomes true, all output points mapped to the trouble zone will activate. The panel will support up to one hundred trouble zones, designated as ZT001 through ZT100. Trouble zones can be used in CCBE applications when a node number is entered before the zone number. Note: Trouble zones can be used only in CCBE applications between NFS2-3030, NFS-3030 and NFS-640 FACPs. Trouble zones will not activate with other combinations.	
Releasing Zone	A releasing zone is used to control a releasing operation. The panel will support up to ten releasing zones, designated as ZR00 through ZR09.	
Special Zone	ZF0	An output participates in Presignal with this special zone in its zone map.
	ZF1 (Trouble less AC)	An output programmed to turn on/off if a system trouble - other than an AC power loss - occurs.
	ZF2 (AC Trouble)	An output programmed to turn on/off if an AC power loss or a brownout condition occurs.
	ZF3 (Security)	An output programmed to turn on/off if a Security input activates.
	ZF4 (Supervisory)	An output programmed to turn on/off if a Supervisory input activates.
	ZF5 Alternate Sensitivity Activation	An input programmed to switch from the active detector alarm sensitivities to the alternate alarm sensitivities when a non-fire point with ZF5 in its CBE activates.
	ZF6	Plant Isolate special zone for Australian Mode. When the Plant Isolate button is pressed, ZF6 will toggle between Normal and Active.
	ZF7	Drill for Australian Mode. In the event of a drill activation, ZF7 will activate and will remain active until a reset is performed on the fire panel.
	ZF9	An output programmed to turn on/off if a PreAlarm is active (ALERT, ACTION).
	ZF10	Any detector or module in alarm verification will activate this zone.
	ZF11	When the drill (alarm signal on for Canadian applications) key is pushed or drill/alarm signal on is performed, ZF11 will go active. ZF11 will go to normal after a 5 second delay.
	ZF12	When the acknowledge key is pushed, or a block or event acknowledge is performed, ZF12 will go active. After a five-second delay, ZF12 will go to normal.
	ZF13	When the signal silence key is pushed or a signal silence is performed, ZF13 will go active. After a five-second delay, ZF13 will go to normal.
	ZF14	When the system reset key is pushed or a system reset is performed, ZF14 will go active. After a ten-second delay, ZF14 will go to normal.
	ZF15	When there are disabled events present in the system, ZF15 will be set to active. When all disabled events have cleared, the state of ZF15 will go to normal.
	ZF16	Drill Zone (Alarm Signal on Zone for Canadian applications). This zone used when Drill/Alarm Signal on Mode is set to Custom. When a drill/alarm signal on is performed on the fire panel, ZF16 will be set to active. ZF16 will return to normal following a system reset.
	ZF17	Signal Silence for Australian Mode operations. When a signal silence is performed, ZF17 will go active and will remain active until a System Reset is performed. The special zone will only function when Australian Mode is enabled.
	ZF18	CO Alarm. When a CO Alarm is present, ZF18 will activate.
	ZF19	CO Pre-Alarm. When a CO Pre-Alarm is present, ZF19 will activate.
	ZF20	When an mass notification alarm occurs on the fire panel, ZF20 will go active. If mass notification events have priority over fire, network nodes MN mapped to the fire panel (via VeriFire Tools) will suppress any active fire events. ZF20 will remain active until a system reset is performed and the MN alarm is cleared
	ZF21	When a mass notification supervisory event occurs, ZF21 will activate. ZF21 will remain active until the MN Supervisory condition is cleared. If the supervisory is latched, a system reset will need to be performed to clear the condition.
	ZF22	When a mass notification trouble occurs on the fire panel, ZF22 will activate. ZF22 will remain active until the MN trouble is cleared
	ZF36	With DCC enabled: If the panel or an LCD-160/C connected to the panel is in control of the network (Control Active LED illuminated), ZF36 for the panel will activate. ZF36 will remain active until a different node on the network is given control.
	ZF37	Automatic Alarm Signal Activation Timer. ZF37 will activate when the first (alert) stage of Two-Stage notification has begun and will remain active until the duration of the first stage is complete (3 or 5 minute timer has expired) or canceled (signal silence or system reset performed).
	ZF38	Second Stage. ZF38 will activate when the second stage (evacuation) of Two-Stage notification has begun and will remain active until a signal silence or system reset is performed OR if a subsequent fire alarm returns the panel to the First Stage.
	ZF39[1]	Automatic Alarm Signal Activation Canceled. ZF39 will activate when the first (alert) stage of the Two-Stage notification has been canceled via an ACM series annunciator control point mapped to ZF39. ZF39 will remain active till a signal silence or system reset is performed, a subsequent alarm restarts the Two-Stage 3/Two-Stage 5 first (alert) stage timer, a drill/alarm signal on is performed, or a device programmed as an Evacuate Switch is activated.
	ZF40	Auto Silence Activation. ZF40 will activate when the auto silence timer has expired and silenceable outputs on the fire panel have been silenced as a result. ZF40 will remain active until a system reset, resound, or drill (alarm signal on for Canadian applications) is performed.

Table 10 Available Zone Types

1 Required for Two-Stage Notification Canadian Standalone Applications

Network Display Mode

Network Display Mode allows the NFS2-3030 to display network events for mapped nodes.

■ Limitations

1. Only the following network node types can be mapped to the NFS2-3030:
   - NFS2-3030
   - DVC
   - NFS2-640
   - NFS-640
   - NFS-320
   - NFS-3030
   - VESDA-HLI-GW
2. Read Status, Control On/Off, Disable/Enable, and Network Control-By-Event will only function for the nodes that are mapped to the NFS2-3030.
3. The number of display type nodes for the entire network is limited to a total of 25. Display nodes include NCA, NCA-2(NCA-2C for Canada Only) , NCD, a Gateway node, or an NFS2-3030 in Network Display Mode.

■ Event, Mass Notification, and Drill/Alarm Signal On Mapping

The NFS2-3030 can be programmed to monitor events and initiate drill (alarm signal on for Canadian applications) on one (1) additional fire panel and up to four (4) DVCs. Refer to “Network Mapping” on page 32.

Mapping a network node to the NFS2-3030 on the Network Mapping menu will allow the NFS2-3030 to monitor and annunciate events for that node. Mass Notification and Drill/Alarm Signal on Mapping for the NFS2-3030 can only be changed through VeriFire Tools. Refer to the *VeriFire Tools Help File*.

■ Panel Control Functions

Acknowledge, System Reset, Signal Silence and Drill (Alarm Signal On for Canadian applications): The NFS2-3030 has the ability to perform a network Acknowledge, System Reset, Signal Silence and Drill/Alarm Signal On. Only the network nodes mapped to the NFS2-3030 will be affected.

Auto Silence: The Auto Silence feature also applies to any network nodes mapped to the NFS2-3030.

■ Print Functions

When in Network Display Mode, printing active points on the NFS2-3030 will also display any active points of any mapped network nodes.

5 Testing/Maintenance

When finished with the original installation and all modifications, conduct a complete operational test on the entire installation to verify compliance with applicable NFPA standards. Testing should be conducted by a factory-trained fire alarm technician in the presence of a representative of the Authority Having Jurisdiction and the owner’s representative. Follow procedures outlined in NFPA Standard 72’s section on *Inspection, Testing and Maintenance*. All test and maintenance instruction codes and software necessary to provide test and inspection requirements of CAN/ULC-S536, Standard for the Inspection and Testing of Fire Alarm Systems.

NOTE: Use 0 (zero) ohm impedance when testing wire-to-wire faults.

5.1 Disable/Enable Points or Zones

WARNING: PHYSICALLY DISCONNECT RELEASING DEVICES
DO NOT RELY ON DISABLE/ENABLE SOFTWARE SETTINGS TO LOCK OUT RELEASING DEVICES. RELEASING DEVICES MUST BE PHYSICALLY DISCONNECTED.

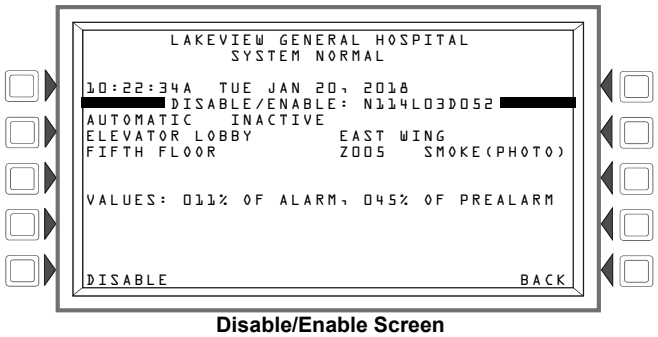
CAUTION: ZONE DISABLE/ENABLE
WHEN A ZONE IS DISABLED, ANY INPUT AND OUTPUT DEVICES MAPPED TO THE ZONE ARE DISABLED IF THE ZONE IS THE POINT’S PRIMARY ZONE. (THE PRIMARY ZONE IS THE ZONE IN THE FIRST POSITION OF THE ZONE MAP.) WHEN A DISABLED OUTPUT IS ENABLED, IT WILL BE AFFECTED BY CONDITIONS PRE-EXISTING IN THE SYSTEM. WHEN A CONDITION EXISTS IN THE SYSTEM THAT WOULD NORMALLY TURN THE OUTPUT ON, THE OUTPUT WILL TURN ON WHEN IT IS ENABLED.

Points or zones can be disabled for testing or maintenance via the Alter Status Menu (Refer to Section 4.3.1 on page 29).

`DISABLE/ENABLE:` Only the applicable command will display. Press to disable an installed, programmed point or enable a previously disabled point.

Group Zone Disable: Disabling a general zone will disable all devices with that zone programmed in the first zone map position.

NOTE: When an input or output associated with releasing functions is disabled, a single supervisory trouble will be generated.
When a point associated with a FAAST device is disabled, all 5 detector addresses programmed for the device will be disabled.



Disable/Enable Screen

5.2 Periodic Testing and Service

Periodic testing and servicing of the control panel, all initiating and notification devices, and any other associated equipment is essential to ensure proper and reliable operation. Test and service the control panel according to the schedules and procedures outlined in the following documents:

- NFPA Standard 72's section on *Inspection, Testing and Maintenance*.
- All test and maintenance instruction codes and software necessary to provide test and inspection requirements of CAN/ULC-S536, Standard for the Inspection and Testing of Fire Alarm Systems.
- Service manuals and instructions for the peripheral devices installed in the system. Correct any trouble condition or malfunction immediately.
- Drill (Alarm Signal On for Canadian applications) - Use the Drill/Alarm Signal On key to manually activate all silenceable outputs and NACs. Press and hold the Drill/Alarm Signal On key for 2 seconds. During a drill/alarm signal On, the panel will turn on all silenceable NACs, Turn off the Signals Silenced LED, and sends a Manual Evacuate message to the History Buffer and installed printers, CRT-2 terminals and annunciators.
- Lamp Test - Use the Lamp Test key to test the control panel LEDs and panel sounder. Press and hold the key. The panel will light all control panel LEDs, turn on the panel sounder, and light all segments of the LCD display. If the Lamp Test key is held longer than 5 seconds, the LCD will display the software revisions.

5.3 Operational Checks

Before proceeding: a) notify the fire department and the central alarm receiving station if transmitting alarm conditions; b) notify facility personnel of the test so that alarm sounding devices are disregarded during the test period; and c) when necessary, disable activation of alarm notification appliances and speakers to prevent their sounding.

- Disconnect all releasing devices to prevent accidental activation in accordance with NFPA 2001, NFPA12, and NFPA 12A releasing agents.

WARNING: PHYSICALLY DISCONNECT RELEASING DEVICES
DO NOT RELY ON DISABLE/ENABLE SOFTWARE SETTINGS TO LOCKOUT RELEASING DEVICES.

- Check that the green POWER LED lights.
- Check that all status LEDs are off.
- Press and hold the LAMP TEST key. Verify that all LEDs and all LCD display segments work.
- Activate an Initiating Device Circuit using an alarm initiating device or an addressable initiating device on the SLC and check that all programmed active notification appliances function. Reset the alarm initiating device, the control panel, and any other associated equipment. In voice alarm applications, confirm that the proper tone(s) and/or messages sound during alarm conditions. Select the paging function and confirm that the message can be heard in the affected fire zones. Repeat the above step with each Initiating Device Circuit and each addressable device.
- On systems equipped with a fire fighter's telephone circuit, make a call from a telephone circuit and confirm a ring tone. Answer the call and confirm communication with the incoming caller. End the call and repeat for each telephone circuit in the system.
- Remove AC power, activate an Initiating Device Circuit through an alarm initiating device or an addressable initiating device on the SLC, and check that programmed active notification appliances sound, and alarm indicators illuminate. Measure the battery voltage with notification appliances active. Replace any battery with a terminal voltage less than 21.6 VDC and reapply AC Power.

NOTE: The battery test requires fully charged batteries. If batteries are new or discharged due to a recent power outage, allow the batteries to charge for 48 hours before testing.

- Return all circuits to their pretest condition.
- Check that all status LEDs are off and the green POWER LED is on.
- Notify fire, central station and/or building personnel when you finish testing the system.

5.4 Walk Test

Walk Test allows the user to test the entire fire alarm system while away from the control panel. There are two types of Walk Test - Basic and Advanced - and each type operates in audible mode.

Walk Test results are sent to the printer and to Event History as "Test". In Network applications, specific nodes can be excluded from having the ability to force the fire panel out of Walk Test. This is programmable via VeriFire Tools. Refer to the *VeriFire Tools help file*.

WARNING: PHYSICALLY DISCONNECT RELEASING DEVICES
DO NOT RELY ON DISABLE/ENABLE SOFTWARE SETTINGS TO LOCKOUT RELEASING DEVICES.

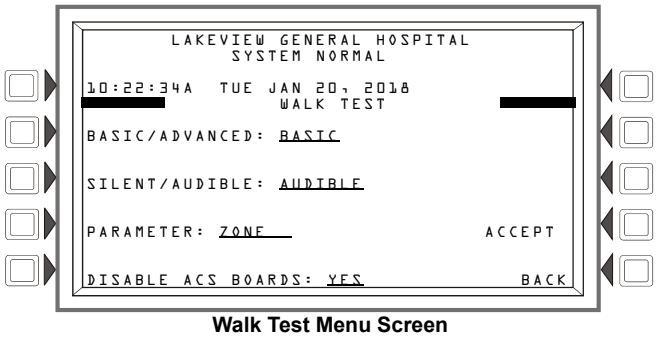
WARNING: NO FIRE PROTECTION
WALK TEST MODE CAN DEACTIVATE FIRE PROTECTION. OBSERVE THE FOLLOWING IMPORTANT PRECAUTIONS.

- Prior to Walk Test, secure all protected buildings, and notify the building owner/operator, fire department, and other pertinent personnel that testing is in progress.
- Immediately after Walk Test is completed, notify the same people that testing is complete and the system is restored to normal operation. Reconnect releasing devices.
- Walk Test will "time out" and return to normal operation after one hour when no Walk Test activations have occurred during that time.
- Walk Test may be exited at any time by pressing the ABORT soft key on the screen.

NOTE: Walk Test will not start if any devices are active (i.e., fire alarms, security, supervisories or pre-alarms). To perform a walk test while a device is active, disable the device and press the System Reset button.
In network applications, specific nodes can be excluded from having the ability to force the fire panel out of Walk Test due to an alarm condition. This is programmable via VeriFire Tools. Refer to the VeriFire Tools help file.
During local or network Walk Test, activating a Mass Notification device will activate associated special function zones according to CBE programming and simulate a Mass Notification event. Any network nodes, zones, or devices not participating in Walk Test will not participate in the simulated Mass Notification event.

BASIC/ADVANCED: Press to toggle between the two choices. Stop at the desired test.

- Basic Walk Test - Allows a single operator to run audible tests on the panel. All logic equation automation is suspended during the test. All ACS devices will default to Disable. They may be enabled by selecting NO at the DISABLE ACS BOARDS soft key on the Walk Test Menu screen.
- Advanced Walk Test - Allows field-supplied output point programming that will react to input stimuli such as CBE and logic equations. When points are activated in advanced testing, each initiating event will latch the input. Release of the latch and subsequent activation of the next point is controlled through use of the NEXT TEST soft key. All ACS devices default to disable. They may be enabled by selecting NO at the DISABLE ACS BOARDS soft key on the Walk Test Menu screen. An advanced test is audible.



Walk Test Menu Screen

SILENT/AUDIBLE: This soft key is for future use. Walk test is audible.

An audible test is intended for pull station verification, magnet-activated tests on input devices, input and output device and wiring operation/verification. Only devices previously configured to participate and designated as part of the test through the following screens will make sound.

PARAMETER: Scroll through the choices. Stop at the desired parameter.

DISABLE ACS BOARDS: Toggle between YES and NO. This setting allows the operator to enable/disable AC devices during Walk Test.

5.4.1 Walk Test Activation Indications

FlashScan Poll Mode

Once the START TEST soft key has been pressed:

- Each intelligent addressable input device will blink its address in red, and each intelligent addressable output device will blink its address in green. Pattern examples are given below.

Address	Blink Pattern
8	8 blinks, long stop, 8 blinks, long stop, …
37	3 blinks, stop, 7 blinks, long stop, 3 blinks, stop, 7 blinks, long stop, …
152	15 blinks, stop, 2 blinks, long stop, 15 blinks, stop, 2 blinks, long stop, …

- An input device activated in Walk Test latches on steady green for the duration of the test. If the device is put in trouble (for instance, the detector head is removed, then replaced), the LED will be latched on for the duration of the test.
- An output device activated in Basic Walk Test will remain active and the LED will glow steady green for
  - 4 seconds for alarms.
  - 8 seconds for troubles.
- An output device activated in Advanced Walk Test will remain active and the LED will glow steady green until the NEXT TEST soft key is pressed.

CLIP Poll Mode

Once the START TEST soft key has been pressed:

- Intelligent addressable input and output devices continue to blink red as usual until activated.
- An input device activated in Walk Test latches on steady red during activation. If the device is put in trouble (for instance, the detector head is removed, then replaced), the LED will be latched on for the duration of the test.
- An output device activated during Basic Walk Test will remain active and the LED will glow steady green (if a FlashScan module) or steady red (if a CLIP module) for
  - 4 seconds for alarms.
  - 8 seconds for troubles.
- An output device activated in Advanced Walk Test will remain active and the LED will glow steady green (if a FlashScan module) or steady red (if a CLIP module) until the NEXT TEST soft key is pressed.

Conventional Devices

Monitor modules with the Type Codes SMOKE CONV, HEAT DETECT, and SMOKE DETECT, and outputs with the Type Code FORM C RESET do not participate in Walk Test other than blinking their addresses if they are polled in FlashScan mode unless they are used with a FlashScan zone module. To prevent the occurrence of false alarms for conventional devices, 24 volt power will be interrupted for up to a minute after Walk Test has been exited.

5.4.2 Battery Checks and Maintenance

Maintenance-free sealed lead-acid batteries used in the system do not require the addition of water or electrolyte. These batteries are charged and maintained in a fully charged state by the main power supply's charger during normal system operation. A discharged battery typically reaches the voltage of 27.6 VDC within 48 hours; the charge rate depends on the battery size (2.0A for 18-26AH; 5.0A-5.7A for 26AH-200AH).

Sealed lead-acid batteries must be replaced within at most 5 years from their date of manufacture. Minimal replacement battery capacity appears on the control panel marking label. Immediately replace a leaking or damaged battery. You can get replacement batteries from the manufacturer.

WARNING: SULFURIC ACID
BATTERIES CONTAIN SULFURIC ACID WHICH CAN CAUSE SEVERE BURNS TO THE SKIN AND EYES AND DAMAGE TO FABRICS.

- If a battery leaks and contact is made with the sulfuric acid, immediately flush skin and/or eyes with water for at least 15 minutes. Water and household baking soda provides a good neutralizing solution for sulfuric acid.
- If sulfuric acid gets into eyes, seek immediate medical attention.
- Ensure proper handling of the battery to prevent short circuits.
- Take care to avoid accidental shorting of the leads from uninsulated work benches, tools, bracelets, rings, and coins.

WARNING: DO NOT SHORT BATTERY LEADS
SHORTING THE BATTERY LEADS CAN DAMAGE THE BATTERY, EQUIPMENT, AND COULD CAUSE INJURY TO PERSONNEL.

6 Compatible Equipment

Notifier Compatible Equipment

Products marked with a check mark have not received UL 864 9th Edition certification and may only be used in retrofit applications.

Electronic Equipment

AA-100 100-Watt Audio Amplifier
AA-120 120-Watt Audio Amplifier
AA-30 30-Watt Audio Amplifier
ACM-24AT Annunciator Control Module
ACM-48A Annunciator Control Module
ACM-8R Annunciator Control Module
ACPS-610 Addressable Charger/Power Supply
ACPS2-6R Auxiliary Power Supply
ACT-1 Audio Coupling Transformer
ACT-2 Audio Coupling Transformer
AEM-24AT Annunciator Expander Module
AEM-48A Annunciator Expander Module
AKS-1B Annunciator Key Switch
AMPS-24/E Addressable Main Power Supply
APJ-1B Annunciator Phone Jack-G
APS2-6R Auxiliary Power Supply (for UL applications only)
A77-716B End-of-Line Resistor Assembly
CGW-MB CLSS Gateway
CGW-PT CLSS POTS Board
CGW-DACT CLSS Dialer
CCM-ATT-HON AT&T Cellular Module
CCM-VZ-HON Verizon Cellular Module
HWF2A-COM IP Digital Alarm Communicator
HWF2V-COM IP Digital Alarm Communicator
CMM-1 Communication converter Module
CPU2-320/E/C Control Panel Circuit Board
CPX-551 Intelligent Ionization Smoke Detector
CPX-751 Intelligent Ionization Smoke Detector
CRT-2 Video Display Monitor With Keyboard
DAA Series Digital Audio Amplifiers
DAA2 Series Digital Audio Amplifier
DAX Digital Audio Amplifier
DPI-232 Direct Panel Interface
DS-AMP Audio Amplifier
DS-BDA Backup Audio Amplifier
DS-DB Digital Distribution Board
DS-XF70V Transformer
DVC-EM Digital Voice Command
DVC-RPU DVC Remote Paging Unit
EOL-CR/CB Assortment ELR Pack with Mounting Plate
EOLR-1 End of Line Resistor Assembly
FCPS-24S6/S8 Field Charger/Power Supply
FHS Fireman's Handset
FPJ Fireman's Phone Jack
FTM-1 Telephone Module
FWSG Wireless Gateway
FZM-1 Zone Module

HS-NCM-MF High-Speed Network Communications Module (Multi-Mode Fiber)
HS-NCM-MFSF High-Speed Network Communications Module (Multi-Mode Fiber to Single-Mode Fiber)
HS-NCM-SF High-Speed Network Communications Module (Single-Mode Fiber)
HS-NCM-W High-Speed Network Communications Module (Wire)
HS-NCM-W-2 High-Speed Network Communications Module (Wire)
HS-NCM-WMF High-Speed Network Communications Module (Wire to Multi-Mode Fiber)
HS-NCM-WMF-2 High-Speed Network Communications Module (Wire to Multi-Mode Fiber)
HS-NCM-WSF High-Speed Network Communications Module (Wire to Single-Mode Fiber)
HS-NCM-WSF-2 High-Speed Network Communications Module (Wire to Single-Mode Fiber)
LCD-160/C Liquid Crystal Display
LCD-80 Liquid Crystal Display Module
LCD2-80 Liquid Crystal Display Module
LCM-320 Loop Control Module
LDM-E32 Lamp Driver Module Ivory
LDM-R32 Lamp Driver Module
LDM-32 Lamp Driver Module
LEM-320 Loop Expander Module
MRD-1 Manual Releasing disconnect assembly
NBG-12LX Series Addressable Manual Pull Station
NCA-2/C Network Communications Annunciator
NCD Network Control Display
NCM-F Network Communications Module (Fiber)
NCM-W Network Communications Module (Wire)
NCS Network Control Station
NFV Notifier FireVoice 25/50
ONYXWorks Workstation Network Monitoring Workstation
PRN-6 80-Column Printer
PRN-7 80-Column Printer
PSE-6/10 Power Supply/Battery Charger
R-120 120 Ohm End-of-Line Resistor
R-2.2K 2.2K End-of-Line Resistor
R-27K 27K End-of-Line Resistor
R-470 470 End-of-Line Resistor
R-47K 47K End-of-Line Resistor
RA100Z Remote Annunciator with diode
RA400 Remote Annunciator
RKS-S Remote Security Keyswitch (Not ULC-listed)
RPJ-1 Remote Phone Jack
RPT-485SF EIA-485 Repeater (Fiber)
RPT-485W EIA-485 Repeater (Wire)
RPT-485WF EIA-485 Repeater (Wire/Fiber)
RM-1 Remote Microphone
RM-1SA Remote Microphone
SCS-8, SCE-8 Smoke Control System
SDX-551 Intelligent Photoelectric Detector
SLC-IM Signaling Line Circuit Integration Module (FlashScan)
STS-1 Security Tamper Switch (Not ULC-listed)
TM-4 Transmitter Module
UDACT/UDACT-2 Universal Digital Alarm Communicator Transmitter
UZC-256 Universal Zone Coder
VeriFire Tools Upload/Download Software
XPIQ Quad Intelligent Audio Transponder (Audio Applications)
FMM-1 Monitor Module
FSP-751 Photo Detector

System Sensor Equipment

A2143-00 End of Line Resistor Assembly

Retrofit Equipment: Compatible Notifier Equipment Listed Under Previous Editions of UL 864

The products in this list have not received UL 864 9th or 10th Edition certification and may only be used in retrofit applications.

- ✓ **ACM-16AT** Annunciator Control Module
- ✓ **ACM-32A** Annunciator Control Module
- ✓ **ACPS-2406** Auxiliary Charger/Power Supply
- ✓ **AEM-16AT** Annunciator Expander Module
- ✓ **AEM-32A** Annunciator Expander Module
- ✓ **AFM-16A** Annunciator Fixed Module
- ✓ **AFM-32A** Annunciator Fixed Module
- ✓ **AMG-1/E** Audio Message Generator
- ✓ **APS-6R** Auxiliary Power Supply
- ✓ **B501BH/B501BHT** Sounder Base
- ✓ **BGX-101L** Addressable Manual Pull Station
- ✓ **CHG-120** Battery Charger
- ✓ **FCPS-24** Field Charger/Power Supply
- ✓ **IPX-751** Advanced Multi-Sensor Intelligent Detector
- ✓ **MMX-1** Addressable Monitor Module
- ✓ **NCA** Network Communications Annunciator
- ✓ **PRN-4**, **PRN-5** 80-Column Printers
- ✓ **RFX** Wireless Transmitter (version 2.0 and higher)
- ✓ **SDRF-751** Wireless Photo/Thermal Smoke Detector (Not ULC-listed)
- ✓ **VS4095** Keltron Printer (Dress plate P-40) (Not ULC-listed)
- ✓ **XPIQ** Quad Intelligent Audio Transponder (NAC Applications)
- ✓ **XP5-C** Transponder Control Module
- ✓ **XP5-M** Transponder Monitor Module
- ✓ **XPC-8** Transponder Control Module
- ✓ **XPM-8** Transponder Monitor Module
- ✓ **XPM-8L** Transponder Monitor Module
- ✓ **XPP-1** Transponder Processor
- ✓ **XPR-8** Transponder Relay Module
- ✓ **5817CB** Wireless Monitor Module

Refer to the *Device Compatibility Document* #15378 and the *SLC Wiring Manual* #51253 for a list of other devices compatible with this FACP.

7 System Configuration

The following tables display System Configuration information for UL applications:

Module	Description	CS	Local	AUX	RS	P (PPU)	P(Burg)	REL	P Rec	Process Mana.(1)	Emerg. Sign. (2)
CPU2-3030(CPU2-3030DC for Canada only)	CPU Board w/ display	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CPU2-3030ND	CPU Board w/o display	O	O	O	O	O	O	O	O	O	O
LCM-320	Loop Control Module	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LEM-320	Loop Expander Module	O	O	O	O	O	O	O	O	O	O
AMPS-24 Alternate Construction AMPS-24/E	Power Supply	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)
FCPS-24S6	Power Supply/Battery Charger	O	Y	O	O	O	O	O	O	O	O
FCPS-24S8	Power Supply/Battery Charger	O	O	O	O	O	O	O	O	O	O
PSE-6	Power Supply/Battery Charger	O	O	O	O	O	O	O	O	O	O
PSE-10	Power Supply/Battery Charger	O	O	O	O	O	O	O	O	O	O
TM-4	Transmitter Module	N	N	Y	Y(4)	O	O	O	O	O	O
NCA-2/C*	Network Control Annunciator	O	O	O	O	O	O	O	O	O	O
NCD	Network Control Display	O	O	O	O	O	O	O	O	O	O
DVC/DVC-EM	Digital Voice Command/Extended Memory Module	O	O	O	O	O	O	O	O	N	N
DVC-RPU	Digital Voice Command Remote Paging Unit	O	O	O	O	O	O	O	O	N	N
DAA-5025 (E)*	Digital Audio Amplifier	O	O	O	O	O	O	O	O	N	N
DAA-5070 (E)*	Digital Audio Amplifier	O	O	O	O	O	O	O	O	N	N
DAA-7525 (F) (SF)*	Digital Audio Amplifier	O	O	O	O	O	O	O	O	N	N
NCS4-W-ONYX/ NCS4-F-ONYX	Network Control Station	O	O	O	O	O	O	O	O	O	O
NCS5-W-ONYX/ NCS5-F-ONYX	Network Control Station	O	O	O	O	O	O	O	O	O	O
NCM-W/F	Network Control Module	O	O	O	O	O	O	O	O	O	O
HS-NCM-W/MF/SF/ WMF/WSF/MFSF/W-2/ WMF-2/WSF-2	Network Control Module	O	O	O	O	O	O	O	O	O	O
CMIC-1	Microphone Assembly	O	O(5)	O	O	O	O	O	O	O	O
TELH-1	Telephone Assembly	O	O(5)	O	O	O	O	O	O	O	O
CAB-A4	Enclosure	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)
CAB-B4	Enclosure	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)
CAB-C4	Enclosure	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)
CAB-D4	Enclosure	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)	Y(6)
ADDR-B4	Door Assembly	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
ADDR-C4	Door Assembly	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)

Table 11 System Configuration for UL Requirements (1 of 3)

Module	Description	CS	Local	AUX	RS	P (PPU)	P(Burg)	REL	P Rec	Process Mana.(1)	Emerg. Sign. (2)
ADDR-D4	Door Assembly	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
DP-1B	Blank Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
BMP-1	Blank Module	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
BP2-4	Battery Plate	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
CA-1	Chassis	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
CA-2	Chassis	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
DPA-1A4	Dress Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
DPA-1	Dress Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
DPA-2	Dress Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
VP-2B	Dress Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
DP-DISP2	Dress Panel	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
CHS-M3	Chassis, 1st tier	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)	O(7)
FMM-4-20	Monitor Module	O	O	O	O	O	O	O	O	O	O
FZM-1	Monitor Module	O	O	O	O	O	O	O	O	O	O
FMM-1*	Monitor Module	O	O	O	O	O	O	O	O	O	O
FMM-101*	Monitor Module	O	O	O	O	O	O	O	O	O	O
FDM-1*	Dual Monitor Module	O	O	O	O	O	O	O	O	O	O
FTM-1*	Control Module	O	O	O	O	O	O	O	O	O	O
FCM-1*	Control Module	O	O	O	O	O	O	O	O	O	O
FCM-1-REL	Releasing Module	O	O	O	O	O	O	O	O	O	O
FCM-1-RELA*	Releasing Module	O	O	O	O	O	O	O	O	O	O
FRM-1*	Relay Module	O	O	O	O	O	O	O	O	O	O
AA-30*	Amplifier 30 watts	O	O(5)	O	O	O	O	O	O	O	O
AA-100*	Amplifier 100 watts	O	O(5)	O	O	O	O	O	O	O	O
AA-120*	Amplifier 120 watts	O	O(5)	O	O	O	O	O	O	O	O
ACT-1*	Audio Coupling Transformer	O	O(5)	O	O	O	O	O	O	O	O
ACT-2*	Audio Coupling Transformer	O	O(5)	O	O	O	O	O	O	O	O
ACT-4	Audio Coupling Transformer	O	O(5)	O	O	O	O	O	O	O	O
ACT-25	Audio Coupling Transformer	O	O(5)	O	O	O	O	O	O	O	O
ACT-70	Audio Coupling Transformer	O	O(5)	O	O	O	O	O	O	O	O
XPIQ*	Quad Intelligent Audio Transponder	O	O	O	O	O	O	O	O	O	O
XPM-8L*	Transponder Monitor Module	O	O	O	O	O	X	O	O	O	O
PRN-6*	Printer	O	O	O	O	O	O	O	O	O	O
PRN-7*	Printer	O	O	O	O	O	O	O	O	O	O
DPI-232*	Panel Interface	O	O	O	O	O	O	O	O	O	O
AVL-1	Audio Voice Link	O	O	O	O	O	O	O	O	O	O
AMG-E*	Audio Message Generator	O	O(5)	O	O	O	O	O	O	O	O
SCS-8*	Smoke Control Station	O	O	O	O	O	O	O	O	O	O
SCS-8L*	Smoke Control Lamp Driver	O	O	O	O	O	O	O	O	O	O
SCE-8*	Smoke Control Expander	O	O	O	O	O	O	O	O	O	O
SCE-8L*	Smoke Control Lamp Driver Expander	O	O	O	O	O	O	O	O	O	O
IPDACT*	IP Digital Alarm Communicator	Y	N	N	O	N	N	N	N	N	N
UDACT-2	Digital Alarm Communicator/Transmitter	Y	N	N	O	O	N	N	N	N	N
ACM-16AT*	Annunciator Control Module	O	O	O	O	O	O	O	O	O	O
ACM-32A*	Annunciator Control Module	O	O	O	O	O	O	O	O	O	O
AEM-16AT*	Annunciator Expander Module	O	O	O	O	O	O	O	O	O	O
AEM-32A*	Annunciator Expander Module	O	O	O	O	O	O	O	O	O	O
AFM-16A*	Annunciator Fixed Module	O	O	O	O	O	O	O	O	O	O
AFM-16AT*	Annunciator Fixed Module	O	O	O	O	O	O	O	O	O	O
AFM-32A*	Annunciator Fixed Module	O	O	O	O	O	O	O	O	O	O
AKS-1*	Annunciator Key Switch	O	O	O	O	O	O	O	O	O	O
RKS-S*	Remote Security Keyswitch	O	O	O	O	O	Y	O	O	O	O
ACM-24AT*	Annunciator Control Module	O	O	O	O	O	O	O	O	O	O
AEM-24AT*	Annunciator Expander Module	O	O	O	O	O	O	O	O	O	O
ACM-48A*	Annunciator Control Module	O	O	O	O	O	O	O	O	O	O
AEM-48A*	Annunciator Expander Module	O	O	O	O	O	O	O	O	O	O

Table 11 System Configuration for UL Requirements (2 of 3)

Module	Description	CS	Local	AUX	RS	P (PPU)	P(Burg)	REL	P Rec	Process Mana.(1)	Emerg. Sign. (2)
LCD-80*	Annunciator	O	O	O	O	O	O	O	O	O	O
LCD2-80*	Annunciator	O	O	O	O	O	O	O	O	O	O
RPT-W*	Repeater Wire	O	O	O	O	O	O	O	O	O	O
RPT-F*	Repeater Fiber	O	O	O	O	O	O	O	O	O	O
RPT-485W*	Repeater Wire	O	O	O	O	O	O	O	O	O	O
RPT-485FW*	Repeater Wire/Fiber	O	O	O	O	O	O	O	O	O	O
FFT-7*	Firefighter's Telephone	O	O(5)	O	O	O	O	O	O	O	O
FFT-7S*	Firefighter's Telephone	O	O(5)	O	O	O	O	O	O	O	O
FHS*	Fireman's Handset	O	O(5)	O	O	O	O	O	O	O	O
FPJ*	Fireman's Phone Jack	O	O(5)	O	O	O	O	O	O	O	O
NBG-12LX*	Addressable Manual Pull Station	O	O	O	O	O	O	O	O	O	O
NBG-12LRA*	Agent Release Abort Station	O	O	O	O	O	O	O	O	O	O
RM-1, RM-1SA*	Remote Microphone	O(5)	O	O	O	O	O	O	O	O	O
BP2-4	Battery Plate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FCO-851	Fire/CO Detector	O	O	O	O	O	O	O	O	O	O
FSA-8000	Intelligent Aspiration Detector	O	O	O	O	O	O	O	O	O	O
FSA-20000	Intelligent Aspiration Detector	O	O	O	O	O	O	O	O	O	O
FSA-5000	Intelligent Aspiration Detector	O	O	O	O	O	O	O	O	O	O
FSA-20000P	Intelligent Aspiration Detector	O	O	O	O	O	O	O	O	O	O
CGW-MB	CLSS Gateway Main Board	Y(8,9)	N	N	N	N	N	N	N	N	N
HON-CGW-MBB	CLSS Gateway in Plastic Enclosure	Y(8,9)	N	N	N	N	N	N	N	N	N
CGW-PT	CLSS POTS Board	Y(8,9)	N	N	N	O	N	N	N	O	Y(8)
CGW-BB	CLSS Dialer Enclosure	Y(10)	O(10)	N	N	N	N	N	N	O(8)	Y(10)
CGW-DACT	CLSS Dialer (CGW-MB with CGW-PT)	Y(8,9)	N	N	N	O	N	N	N	O	Y(8)
CGW-DACT-CH	CLSS Dialer Chassis	Y(8,9)	N	N	O	N	N	O	N	N	Y
HON-CGW-DACT	CLSS Dialer in Plastic Enclosure	Y(8,9)	N	N	N	O	N	N	N	O	Y(8)
CCM-ATT-HON	AT&T Cellular Module	O	O	N	N	N	N	N	N	O	O
CCM-VZ-HON	Verizon Cellular Module	O	O	N	N	N	N	N	N	O	O
HWF2A-COM	IP Digital Alarm Communicator	Y(8,9)	N	N	N	O	N	N	N	O	O(8)
HWF2V-COM	IP Digital Alarm communicator	Y(8,9)	N	N	N	O	N	N	N	O	O(8)

KEY:

***** - Modules are listed separately **Y** - Yes **N** - No **O** - Optional **X** - Not permitted for security applications

NOTES:

1. Non-emergency
2. Emergency
3. At least one power supply must be utilized.
4. The system must contain one of these units.
5. When configured for Emergency Relocation and Evacuation Equipment, the system must meet Local configuration with a minimum of one amplifier, one Audio Message Generator, one Voice Control Module. The phones, remote microphones, and audio coupling transformers are optional. (Voice Alarm System Manual, Part No. 51252, shown in File S635, Vol. 5C, ILL. 1)
6. One of the cab enclosures must be utilized.
7. Various dress panels/dead fronts/trim rings must be employed so that internal components and high voltage is not accessible.
8. Also required when devices for Carbon Monoxide signaling are employed

- When configured for Smoke Control Service, system must be configured for Local service and with utilization of the separately listed models BGRA-SCS, BRB-SCS, CEF-SCS, RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS, or RSE-SCS firefighter's smoke control stations. (Smoke Control System Manual, Part No. 15712, as shown in UL File S5511, Vol. 1, ILL. 1)
- When configured for security applications, system must be configured for a maximum of 60 seconds for Entry/Exit delay. Standby power must provide 24 hours of standby. Not suitable for Canadian (ULC) applications.
- CPU2-3030ND is utilized when a large system is configured. CPU2-3030ND allows for connections of additional devices which interface with the CPU2-3030D on a sizable system.

9. Required if utilizing a central station other than supported by CGW-MB

- Alarm verification (maximum verification period of 60 for field programmable between 0 and 60s)
- Supports standard 2-wire smoke detectors using Models FZM-1. refer to the Device Compatibility Document for compatible 2-wire smoke detectors
- Supports addressable or analog devices
- Field Programming
- Signal Silence Inhibit
- Remote annunciator outputs
- Automatic Alarm Signal Silence
- Drift compensation
- Detector sensitivity testing per Par. 7-3.2.1 of NFPA 72GW-MB alone OR using a CGW-MB with CGW-PT OR using CGW-DACT.

10. Required when using CGW-MB alone OR using a CGW-MB with CGW-PT OR using CGW-DACT.

Table 11 System Configuration for UL Requirements (3 of 3)

The units may employ the following features

- Alarm verification (maximum verification period of 60 seconds (30 seconds per ULC) or field programmable between 0 and 60 seconds)
- Supports standard 2-wire smoke detectors using Model FZM-1
- Walk test
- Supports addressable or analog devices
- Field Programming
- Signal Silence Inhibit
- Remote annunciator outputs
- Automatic Alarm Signal Silence
- Drift compensation
- Detector sensitivity testing per Par. 7-3.2.1 of NFPA 72

UL Type Service	Model	IDC Class	Initiating Device Types	NAC	Type Signaling	Signal Line Circuit
Local	NFS2-3030 NFS2-3030E	B, D	A, M, WF, SS	A, B	C(1), NC	(Class B) (Class A,X)
Auxiliary	NFS2-3030 NFS2-3030E	B, D	A, M, WF	N/A	N/A	(Class B) (Class A,X)
Remote Station (PPU)	NFS2-3030 NFS2-3030E	B, D	A, M, WF, SS	N/A	DACT, Rev. Pol.,OT (1)	(Class B) (Class A,X)
Proprietary (PPU)	NFS2-3030 NFS2-3030E	B, D	N/A	N/A	NC	(Class B) (Class A,X)
Proprietary (Rec. Unit)	NFS2-3030 NFS2-3030E	B, D	N/A	N/A	MX	(Class B) (Class A,X)
Central Station (PPU)	NFS2-3030 NFS2-3030E	B, D	A, M, WF, SS	N/A	DACT, OT (1)	(Class B) (Class A,X)
Proprietary (Burg)	NFS2-3030 NFS2-3030E	B, D	N/A	N/A	MX (1)	(Class B) (Class A,X)
Smoke Control	NFS2-3030 NFS2-3030E	B, D	A, M, WF, SS	N/A	N/A	(Class B) (Class A,X)
Process Management (Non-emergency)	NFS2-3030 NFS2-3030E	B, D	A, M	A, B	C,NC	(Class B, Class A)
Emergency Signaling	NFS2-3030 NFS2-3030E	B, D	A, M	A,B	C,NC	(Class B, Class A)
1. Requires separately listed equipment						

Table 12 UL Type of Service Configurations

The following tables display System Configuration information for ULC applications:

Module	Description	Local	AUX	RS	P (PPU)	*REL	*P Rec
CPU2-3030 (CPU2-3030DC for Canada Only)	CPU Board w/display	Y	Y	Y	Y	Y	Y
CPU2-3030ND	CPU Board w/o display	O	O	O	O	O	O
LCM-320	Loop Control Module	Y	Y	Y	Y	Y	Y
LEM-320	Loop Extender Module	O	O	O	O	O	O
AMPS-24 Alternate Construction AMPS-24	Power supply	Y(1)	Y(1)	Y(1)	Y(1)	Y(1)	Y(1)
AMPS-24E Alternate Construction AMPS-24E	Power Supply	Y(1)	Y(1)	Y(1)	Y(1)	N	Y(1)
TM-4*	Transmitter Module	N	Y	Y(2)	Y	O	O
DVC/DVC-EM	Digital Voice Command/Extended Memory Module	O	O	O	O	O	O
DAA-5025(E) *	Digital Audio Amplifier	O	O	O	O	O	O
DAA-5070(E) *	Digital Audio Amplifier	O	O	O	O	O	O
NCA-2/C *	Network Control Annunciator	O	O	O	O	O	O
NCD	Network Control Display	O	O	O	O	O	O
NCS4-W-ONYX/ NCS4-F-ONYX	Network Control Station	O	O	O	O	O	O
NCM-W/F*	Network Control Module	O	O	O	Y	O	O
CAB-A4*	Enclosure	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)
CAB-B4*	Enclosure	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)
CAB-C4*	Enclosure	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)

Table 13 System Configuration for ULC Requirements (1 of 3)

Module	Description	Local	AUX	RS	P (PPU)	*REL	*P Rec
CAB-D4*	Enclosure	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)	Y(3)
ADDR-B4 *	Door Assembly	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
ADDR-C4*	Door Assembly	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
ADDR-D4 *	Door Assembly	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
DP-1B*	Blank Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
BMP-1*	Blank Module	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
BP-4*	Blank Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
CA-1*	Chassis	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
CA-2*	Chassis	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
DPA-1A4*	Dress Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
DPA-1*	Dress Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
DPA-2*/DPA-2B #	Dress Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
VP-2B*	Dress Panel	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
DP-DISP*	Inner Dress Panel	Y	Y	Y	Y	Y	Y
CHS-M3*	Chassis, 1st tier	Y	Y	Y	Y	Y	Y
FZM-1	Monitor Module	O	O	O	O	O	O
FMM-1*	Monitor Module	O	O	O	O	O	O
FMM-101*	Monitor Module	O	O	O	O	O	O
FDM-1*	Dual Monitor Module	O	O	O	O	O	O
FRM-1*	Relay Module	O	O	O	O	O	O
FTM-1*	Control Module	O	O	O	O	O	O
FCM-1*	Releasing Module	O	O	O	O	O	O
UDACT*	Universal DACT	Y	N	Y(2)	O	Y	O
UDACT-2*	Universal DACT	Y	N	Y(2)	O	Y	O
UZC-256*	Universal Zone Coder	O	O	O	O	O	O
ACM-8R*	Annunciator Control Module	O	O	O	O	O	O
ACM-16AT*	Annunciator Control Module	O	O	O	O	O	O
ACM-32A*	Annunciator Control Module	O	O	O	O	O	O
AEM-16AT*	Annunciator Exp. Module	O	O	O	O	O	O
AEM-32A*	Annunciator Exp. Module	O	O	O	O	O	O
AFM-16A*	Annunciator Fixed Module	O	O	O	O	O	O
AFM-16AT*	Annunciator Fixed Module	O	O	O	O	O	O
AFM-32A*	Annunciator Fixed Module	O	O	O	O	O	O
AKS-1B*	Annunciator Key Switch	O	O	O	O	O	O
ACM-24AT*	Annunciator Control Module	O	O	O	O	O	O
AEM-24AT*	Annunciator Expander Module	O	O	O	O	O	O
ACM-48A*	Annunciator Control Module	O	O	O	O	O	O
AEM-48A*	Annunciator Expander Module	O	O	O	O	O	O
RPT-W*	Repeater Wire	O	O	O	O	O	O
RPT-F*	Repeater Fiber	O	O	O	O	O	O
RPT-485W*	Repeater Wire	O	O	O	O	O	O
RPT-485FW	Repeater Fiber/Wire	O	O	O	O	O	O
FHS	Fireman's Handset	O(5)	O	O	O	O	O
FPJ	Fireman's Phone Jack	O(5)	O	O	O	O	O
FCM-1-RELA*	Releasing Module	O	O	O	O	Y	O
HWF2V-COM	IP/Cellular Alarm Communicator	N	N	N	O	N	O
HWF2A-COM	IP/Cellular Alarm Communicator	N	N	N	O	N	O
IPDACT*	IP Digital Alarm Communicator	N	N	N	O	N	O
ICM-4RK	Indicating Circuit Module	O	O	O	O	O	O
ICE-4	Indicating Control Expander	O	O	O	O	O	O
AA-30	Amplifier, 30 Watts	O(5)	O	O	O	O	O
AA-100	Amplifier, 100 Watts	O(5)	O	O	O	O	O
AA-120	Amplifier, 120 Watts	O(5)	O	O	O	O	O
ACT-1	Audio Coupling Transformer	O(5)	O	O	O	O	O
ACT-2	Audio Coupling Transformer	O(5)	O	O	O	O	O
ACT-4	Audio Coupling Transformer	O(5)	O	O	O	O	O

Table 13 System Configuration for ULC Requirements (2 of 3)

Module	Description	Local	AUX	RS	P (PPU)	*REL	*P Rec
ACT-25	Audio Coupling Transformer	O(5)	O	O	O	O	O
ACT-70	Audio Coupling Transformer	O(5)	O	O	O	O	O
RM-1, RM-1SA	Remote Microphone	O(5)	O	O	O	O	O
XPIQ	Quad Intelligent Audio Transponder	O	O	O	O	O	O
XPM-8L	Transponder Monitor Module	O	O	O	O	O	O
AVL-1	Audio Voice Link	O	O	O	O	O	O
PRN-6	Printer	O	O	O	O	O	O
PRN-7	Printer	O	O	O	O	O	O
VS4095	Keltron Remote Printer	O	O	O	O	O	O
CRT-2	Display Terminal	O	O	O	O	O	O
NCS5-W-ONYX, NCS5-W-ONYX	Network Control Station	O	O	O	O	O	O
LCD-80	Annunciator	O	O	O	O	O	O
LCD-160/C	Annunciator	O	O	O	O	O	O
AKS-1B	Annunciator Key switch	O	O	O	O	O	O
DPI-232	Panel Interface	O	O	O	O	O	O
NCM-W/F	Network Control Module	O	O	O	O	O	O
HS-NCMW/MF/SF/WMF/WSF/MFSF/W-2/ WMF-2/WSF-2	High Speed Network Control Module	O	O	O	O	O	O
NBG-12LX	Addressable Manual Pull Station	O	O	O	O	O	O
BP2-4	Battery Plate	Y	Y	Y	Y	Y	Y
FSA-8000A	Intelligent Aspiration Detector	O	O	O	O	O	O
FSA-20000A	Intelligent Aspiration Detector	O	O	O	O	O	O
FSA-5000A	Intelligent Aspiration Detector	O	O	O	O	O	O
FSA-20000P	Intelligent Aspiration Detector	O	O	O	O	O	O

KEY:
***** - Modules are listed separately **Y** - Yes **N** - No **O** - Optional

NOTES:

1. At least one power supply must be utilized.
2. The system must contain one of these units.
3. One of the cab enclosures must be utilized.
4. Various dress panels/dead fronts/trim rings must be employed so that internal components and high voltage is not accessible.
5. When configured for Emergency Relocation and Evacuation Equipment, the system must meet Local configuration with a minimum of one amplifier, one Audio Message Generator, one Voice Control Module. The phones, remote microphones, and audio coupling transformers are optional. (Voice Alarm System Manual, Part No. 51252, shown in File S635, Vol. 5C, ILL. 1)

- When configured for Smoke Control Service, system must be configured for Local service and with utilization of the separately listed models BGRA-SCS, BRB-SCS, CEF-SCS, RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS, or RSE-SCS firefighter's smoke control stations. (Smoke Control System Manual, Part No. 15712, as shown in UL File S5511, Vol. 1, ILL. 1)
- When configured for security applications, system must be configured for a maximum of 60 seconds for Entry/Exit delay. Standby power must provide 24 hours of standby. Not suitable for Canadian (ULC) applications.
- CPU2-3030ND is utilized when a large system is configured. CPU2-3030ND allows for connections of additional devices which interface with the CPU2-3030D on a sizable system.

Table 13 System Configuration for ULC Requirements (3 of 3)

ULC Type Service	Model	IDC Class	Initiating Device Types	NAC	Type Signaling	Data Communication Link
Local	NFS2-3030 NFS2-3030E	Class A Class B	A, M, WF, SS	Class A Class B	C(1), NC	DCLB, DCLA, DCLR
Auxiliary	NFS2-3030 NFS2-3030E	Class A Class B	A, M, WF	Class A Class B	N/A	DCLB, DCLA, DCLR
Remote Station (PPU)	NFS2-3030 NFS2-3030E	Class A Class B	A, M, WF, SS	Class A Class B	DACT, Rev. Pol., OT (1)	DCLB, DCLA, DCLR
Proprietary (PPU)	NFS2-3030 NFS2-3030E	Class A Class B	N/A	Class A Class B	NC	DCLB, DCLA, DCLR
Proprietary (Rec. Unit)	NFS2-3030 NFS2-3030E	Class A Class B	N/A	Class A Class B	MX	DCLB, DCLA, DCLR
Smoke Control	NFS2-3030 NFS2-3030E	Class A Class B	A, M, WF, SS	Class A Class B	N/A	DCLB, DCLA, DCLR

1. Requires separately listed equipment

Table 14 ULC Type of Service Configurations

8 System Power/Size

Power	Current	Max. AH Capacity	Derating Factor	Max. Standby Current	Max. Alarm Current	Max. Standby Time	Max. Alarm Duration
Primary (Power Supply)	5A (AMPS-24 Power Supply); or 2.5A (AMPS-24E Power Supply)	N/A	N/A	891 mA (AMPS-24) or 498 mA (AMPS-24E)	2.4 A (AMPS-24) or 1.46 A (AMPS-24E)	N/A	N/A
Secondary (backup)	7.4A	200AH	26 AH batteries: UL=1.2, ULC=1.2 55 AH batteries: UL=1.2, ULC=1.8 100 AH batteries: UL=1.2, ULC=2.5 200 AH batteries: UL=1.2, ULC=2.5	4.4A (For 26AH batteries: max standby current cannot exceed 0.65A.)	7.4A (max alarm current cannot exceed 6.75A.)	24 hours	5 minutes standard, 15 minutes for emergency voice/alarm communications systems.

Table 15 System Power

Accessories/Subassemblies/Networked panels	Maximum System Capacity
Monitor and Control Modules	159 per loop, up to 1,590 total
Detectors	159 per loop, up to 1,590 total
Signaling Line Circuits (SLC)	10
NFS2-3030 Fire Alarm Control Panel	High-Speed Noti•Fire•Net - 200 Nodes Noti•Fire•Net - 103 Nodes. 54 nodes when DVC is used in network paging.

Table 16 System Size

9 Operating Instructions

Frame and mount the *NFS2-3030 Operating Instructions* #52547, adjacent to the control panel.

NFS2-3030 OPERATING INSTRUCTIONS

Section 1 Operating Information

Normal Standby Operation.

1. Green POWER indicator lit steadily.
2. Red FIRE ALARM indicator off.
3. Yellow TROUBLE indicators off.
4. Yellow OTHER indicator off.

Alarm Condition.

1. Red FIRE ALARM and/or Yellow OTHER (for MNS alarms) indicator(s) lit.
2. Alarm signaling devices activated.
3. Option module (remote station or supplementary alarm relay) activated.
4. Alarm information visible on LCD (liquid crystal display).

Alarm Reset. After locating and correcting the alarm condition, reset the control panel by pressing the SYSTEM RESET switch. If both Fire and MNS conditions are present on the panel, SYSTEM RESET must be pressed twice.

Trouble Condition. Activation of trouble signal under normal operation indicates a condition that requires **immediate** attention. Contact your local service representative. Silence the audible signal by pressing the ACKNOWLEDGE switch. The trouble indicator will remain illuminated.

Section 2 NFS2-3030 Switch Functions

Acknowledge. This silences the piezo sounder and changes all flashing conditions to steady. It sends an acknowledge message to the printer and history file. ACKNOWLEDGE also automatically sends a special command to silence piezo sounders on ACS Annunciators. If more than one event exists, it advances the display to the next item and displays it until the ACKNOWLEDGE switch is pressed again. Only one press is necessary for non-fire, trouble, or supervisory signals.

Signal Silence. SIGNAL SILENCE turns off all silenceable circuits and illuminates the SIGNALS SILENCED indicator. It also sends a SIGNALS SILENCED message to the LCD, printer, and history file. A subsequent alarm will then resound the system.

Notes:

1. This system is programmed to inhibit signal silence for ____seconds.
2. This system is programmed to automatically silence alarm signal after _____ minutes.

Drill (Alarm Signal On for Canadian applications). The NFS2-3030 waits for the DRILL/ALARM SIGNAL ON switch to be pressed for 2 seconds, then turns on all silenceable circuits (all control modules/panel circuits that are programmed silenceable for fire alarms), and turns off the SIGNALS SILENCED LED. This event shows on the LCD, printer, and History file.
Note: This switch is only available on NFS2-3030 with keypad/display.

System Reset. Resets the control panel in standalone applications. Resets panel when enabled in network applications.

Lamp Test. Press and hold the switch to lamp-test the LEDs.

Section 3 LED Indicators

Controls Active. Green LED which illuminates when the NFS2-3030 assumes control of the network primary display.

Power. Green LED which illuminates when primary power is applied to the control panel.

Fire Alarm. Red LED that flashes when one or more alarms occur. Illuminates steadily after alarms are acknowledged, and turns off when SYSTEM RESET is pressed after alarm clears.

Pre-Alarm. Red LED that flashes when a pre-alarm threshold is reached.

Security. Blue LED that illuminates for a security alarm. LED turns off after the alarm clears and SYSTEM RESET is pressed.

Supervisory. Yellow LED that flashes when a Supervisory or Tamper condition occurs, such as a sprinkler valve tamper condition. The LED illuminates steady after conditions are acknowledged, and turns off when the conditions are cleared. The Tamper indication will latch until SYSTEM RESET is pushed.

System Trouble. Yellow LED that flashes when one or more troubles occur. Goes on steadily when ACKNOWLEDGE is pressed, and turns off when all trouble conditions are cleared.

Other Event. Yellow LED flashes when an MNS alarm, process monitor, CO alarm, CO pre-alarm, hazard alert or weather alert occurs. Goes on steadily when ACKNOWLEDGE is pressed, and turns off when the condition is cleared. System reset required for MNS alarms.

Signals Silenced. Yellow LED that illuminates after SIGNALS SILENCED has been pressed. Turns off when DRILL or SYSTEM RESET is pressed.

Point Disabled. Yellow LED that illuminates when one or more points are disabled. The LCD will indicate which points have been disabled. Turns off when points are re-enabled.

CPU Failure. Yellow LED that illuminates if the microprocessor fails.

Section 4 NFS2-3030 Audible Sounder

Alarm. A continuous sounding tone.

Trouble, Disable, Pre-alarm. Two beeps per second.

Supervisory. Four beeps per second.

Security. Eight beeps per second.

Section 5 Periodic Testing and Maintenance

To ensure proper and reliable operation, system inspection and testing should be scheduled as required by the Authority Having Jurisdiction, or as required by NFPA 72 or local fire codes. A qualified Service Representative should perform testing.

Before Testing: Notify fire department and/or central alarm receiving station if alarm condition is transmitted. Notify facility personnel of the test so alarm sounding devices are ignored during the test period. *Physically disconnect releasing devices.*

Remote Connection Feature: ULC requires that devices such as UDACT and TM-4 be disconnected during annual testing to prevent transmission of false alarms.

TM-4: Slide SW4 Disable All Output switch from “Enable” to “Disable.”

After Testing: Verify that remote-connection devices are turned back on. Notify all fire, central station, and/or building personnel when testing is complete. *Re-connect releasing devices*.

Section 6 Local Service Representative:

NAME: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

This sheet must be framed and mounted adjacent to the control panel.

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